Earnings Quality and Clean Surplus Principles

Javed Mahmood
(MSc, MBA, B.COM*)*

Tasmanian School of Business and Economics (TSBE)
University of Tasmania

Submitted in fulfillment of the requirements of the degree of Doctor of Philosophy

January 2019

Abstract

Earnings quality has a range of measures, including persistence, smoothness and accruals. There is no unique definition of earnings quality. Proposals to move to a notion of Hicksian income to underpin earnings quality are appealing. This thesis explores two concepts of surplus: clean and dirty. Clean surplus (CS) earnings require that all items that affect the book value of equity be included in earnings and flow in the income statement however, flows of dirty surplus (DS) arise if certain variations in shareholders' equity bypass the income statement and are directly reported in retained earnings.

Clean surplus earnings provide the underlying earnings strength of a firm in value creation and provide transparent information. However, dirty surplus reduces the informativeness and predictive power of accounting earnings, impairs the quality of earnings as a significant input for contracting and valuation, captures all sources of value creation, and reduces 'transparency' and 'visibility. This appeal to use clean surplus as a theoretical understanding of income. This theoretical (calculated) income is then compared to other comprehensive income (OCI). Contradictory opinions regarding the recycling timing, location of OCI items and reporting of large losses in OCI after 2011 increased the importance of FASB update (ASU) 2011-05.

This study addresses the question of quality of earnings with respect to the clean surplus assumption after 2011. Its purpose is to assess the quality of reported earnings of Compustat firms, major industries and individual firms, by analysing the patterns of the relationship between earnings disclosed in the income statement and earnings disclosed in the other comprehensive income (OCI) statement. For this purpose, this study analyses the patterns of net income (NI), OCI, accumulated other comprehensive income (AOCI), clean surplus book value and reported book value, using SPSS 16 to analyse data for the period 1995–2014. Clean surplus book value is based on changes in assets and labilities unrelated to dividends that pass through the income statement.

This study finds that, for Compustat firms and most industry groupings, OCI is unusually negative and the accumulated sum of other losses is very high after 2011, which caused divergence of reported book value from clean surplus book value. The net reported book value of Compustat firms and the assets of most of the industry groupings are noticeably lower than the net asset values that would be expected from earnings reported in the income statement (i.e., assuming clean surplus principles in accounting measurement). The impact of this is that reported earnings generally provide an overoptimistic picture of net assets throughout the period.

This study also finds evidence in three case studies that the movement of OCI losses attributed to discontinuous operation goes through retained earnings and gains on the statement of operation, indicating that these transactions are affecting earnings quality and not reversing over time. However, evidence is also found from two other case studies that regular reversal of OCI gains and losses shows less possibility of poor earnings quality.

This study finds some evidence from two case studies against the clean surplus principle that movement of repurchase and retirement of treasury stock through retained earnings affect the pattern of OCI and influence the divergence of reported book value and clean surplus book value. Based on the assumptions adopted in this study, earnings quality is judged to be lower in these firms.

This study contributes to the theoretical framework for earnings quality in several ways. The argument is proposed that clean surplus is a baseline against which reported earnings can be evaluated. Clean surplus income is considered the summary performance measure in firm valuation. This position takes the literature on comprehensive income back to firm performance, where the axiomatic principles of clean surplus impart properties to time series analysis. This study also contributes to the literature by examining why AOCI losses increase over time and may reverse in more than two years.

Cases are noted where the writing down of discontinuous operations through retained earnings remains a problem for standard setters since FASB update (ASU) 2011-05. This examination indicates that large losses are sometimes reported through OCI and, in some cases, directly through an adjustment to retained earnings without appearing in the comprehensive statement of income. This indicates that large loss transactions are affecting earnings quality by neither passing through the income statement nor reversing in short period.

There are several implications from the findings of this study. First, there are implications for the FASB update (ASU) 2011-05. A large unrealised loss is recognised through the equity section rather than the statement of comprehensive income. The omission of such very large write downs from comprehensive income has a very significant effect on a firm's patterns of income over time and gives a greatly unrealistic picture to stakeholders of the firm's long-term performance. Second, the reported book value of the sample companies is deviating from the clean surplus book value, which indicates that the reporting of a firm's performance is overstated. Third, the accumulative sum of OCI indicates that reversal of unrealised gains or losses is taking more time. Fourth, this study has implications for securities exchanges and investment analysts who evaluate the earnings quality of firms over time.

Key words: Clean surplus book value, reported book value, other comprehensive income, earnings quality.

Declarations and authority of access statements

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.'

This thesis may be made available for loan and limited copying and communication in accordance with the Copyright Act 1968.

Javed Mahmood

Hobart, Tasmania

11 January 2019

Contents

List of Figures

List of Table

List of Major Abbreviations

AEM	Abnormal earnings model
AFS	Available for sale
AIMR	Association for Investment Management and Research
AOCI	Accumulated other comprehensive income
ASB	Accounting Standard Board
BC	Broad consideration
BV	Book value
CEO	Chief executive officer
CS	Clean surplus
DS	Dirty surplus
EBIT	Earnings before income tax
ERISA	Employee Retirement Income Security Act
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
FRS	Financial reporting standard
GAAP	Generally accepted accounting principles
NI	Net income
OCI	Other comprehensive income
R&D	Research and development
RE	Retained earnings
SEC	The Securities and Exchange Commission
SFAC	Statement of financial accounting concepts
SFAS	Statement of financial accounting standard
SIC	Standard Industrial Classification

Chapter 1: Introduction

1.1 Background

Accounting measurement rules and standards require certain adjustments to be made over several accounting periods to ensure that earnings provide an accurate picture of events. Clean surplus earnings are an important contributing factor to the production of high-quality financial statements. Clean surplus earnings are considered the summary performance measure in firm valuation (Bernard, 1995, Dechow et al., 1999; Walker, 1997), capturing 'transparency' and 'visibility' (Johnson & Swieringa, 1996; Johnson et al., 1995; Linsmeier et al., 1997) and improving the forecasting ability of upcoming earnings and cash flows (Kanagaretnam et al., 2009).

A longstanding controversy in accounting is the issue of whether income should follow clean surplus accounting principles. Accounting standards have departed from clean surplus accounting on numerous occasions, permitting certain changes in net assets to bypass the income statement and be reported directly into the equity section of the balance sheet. Examples of these so-called "dirty surplus flows" are foreign currency translations, unrealised gains and losses on available-for-sale (AFS) securities, adjustments in additional minimum pension liability, and gains and losses of cash flow hedges and asset revaluations. The practice of dirty surplus accounting has developed over the years, mostly in an ad hoc manner, as a political solution to controversial accounting issues. International research shows that the flow of dirty surplus is possibly material, often not centred on zero and subject to significant cross-country variation (Claus & Thomas, 2001; Stark, 1997). Further, it potentially reduces the informativeness and predictive power of accounting earnings (Thinggaard et al., 2006; O'Hanlon &c Pope, 1999; Kanagaretnam et al., 2009).

1.2 Research Objective and Question

The main objective of this thesis is to investigate whether Compustat firms and individual industries exhibit improvement in earnings quality with respect to

clean surplus principles after the Financial Accounting Standards Board (FASB) update (ASU) 2011-05. The main objective of this FASB update was to improve comparability, consistency, and transparency of financial reporting and the prominence of items reported in other comprehensive income (OCI).

Unrealised gains and losses related to foreign currency exchange, minimum pension benefits plan and marketable securities are known as other comprehensive income (OCI). These are the items that are excluded in net income but included in comprehensive income (Kim, 2016; Henry, 2011).

There are contradictory opinions regarding the presentation of OCI items. Researchers argue that the reporting of OCI items in shareholders' equity under the Statement of Financial Accounting Standard (SFAS) 130[1] issued in 1997 creates several issues, including the potential reduction in transparency and predictive power of accounting earnings (O'Hanlon & Pope, 1999; Thinggaard et al., 2006; Kanagaretnam et al., 2009; Barker, 2004; Linsmeier et al., 1997; Isidro et al., 2004; Frankel & Lee, 1999).

After considering these concerns that were raised by stakeholders, FASB issued ASU 2011-05 in June 2011. FASB believes that the new standard increases the importance of other comprehensive income items and enhances transparency in disclosing comprehensive income (CI) and changes in OCI (Kim, 2016).

In addition, the reporting location of OCI items under the FASB 2011 update increases transparency, comparability and consistency (Chambers, 2011). Adding reclassification adjustments provides clarity regarding certain items that are already included in a previous period's comprehensive income (Henry, 2011; Casabona & Coville, 2014).

[1] SFAS 130 established standards for reporting and display of comprehensive income (including NI and OCI) and its components (revenues expenses, gains and losses) in a full set of general-purpose financial statements. This statement requires that all items that are required to be recognized under accounting standards as components of comprehensive income be reported in financial statement that is displayed with the same prominence as other financial statements.

Researchers have raised various other issues relating to the setting of standards and the current reporting requirement of comprehensive income. The most prominent of these may be defining which income items are included in earnings and which are included in OCI (Black, 2016; Nishikawa et al., 2016; Rees & Shane, 2012; Linsmeier et al., 1997). Standard setters have been unsuccessful in mitigating the use of OCI and the issue of recycling of OCI items to profit and loss in the current conceptual framework, which affects the consistency, transparency and quality of earnings (Nishikawa et al., 2016).

Eaton et al. (2013) argue that the presentation format for reporting should not matter if the market is efficient and investors are rational. They also argue that, in an efficient market, public information shown in any format is entirely incorporated into a company's stock price.

The position of FASB from 2011 takes the literature on Comprehensive Income back to firm performance with comments from them on broad considerations, expects that earnings quality has improved. This motivates the following research question: has earnings quality improved since 2011? To address this question, this study considers Compustat firms as a whole, and subcategorised into major industries and individual firms. Reversal timing of OCI items, which affect earnings quality, are also considered.

There has been extensive debate on the reversal of OCI items. For example, OCI gains and losses are transitory and reverse regularly (Linsmeier et al., 1997); accruals have a finite (one to two years) adjustment (Dechow et al., 2010; Dechow et al., 2011; Fairfield et al., 1996; Burgstahler et al., 2002; Dechow & Ge, 2006; Fairfield et al., 2009); and recycling of OCI items to profit and loss occur regularly (Barker, 2004, Chambers et al., 2007, Yen et al., 2007, Bamber et al., 2010).

However, OCI gains and losses may remain on the balance sheet for years before the sale of fundamental assets or the settlement of liabilities (Jones & Smith, 2011). Some OCI items (e.g., those available for sale) may not be transitory and

may not be recycled and recognised in the subsequent period as income (Emrick et al., 2006), and some OCI items may recur over time (Elliott & Hanna, 1996; Francis et al., 1996; Cready et al., 2010). The repetitive nature of some items will mean that a prior-period reversal is offset against a current-period recognition and the net movement may be invisible or buried. This affects transparency and earnings quality. For this purpose, FASB requires companies to show reclassification adjustments from comprehensive income to net income on the face of their financial statements (Henry, 2011; Eaton et al., 2013).

The dirty OCI items that do not reverse in a subsequent period create several issues, including a reduction in the quality of earnings and impairment of earnings as a significant input for contracting and valuation, which reduces the usefulness of income information (Biddle & Choi, 2006); a source of error in accounting-based valuation models (Linsmeier et al., 1997); a reduction in transparency (Paton, 1934; Littleton, 1940; Johnson et al., 1995; Linsmeier et al., 1997); and an increase in reported earnings (Paton, 1934; Littleton, 1940).

In addition, Ohlson (1995) argued that transitory earnings must be excluded from the income statement because they are unpredictable, irrelevant in forecasting earnings for the subsequent period and provide no informational role at the time of estimating the present value of a firm's projected dividends. Transitory earnings refer to the earnings which do not occur from one period to another. It is not continuous or non-recurring in nature.

Black (2016) explained that managers' decisions that affect OCI and accumulated other comprehensive income (AOCI) may also affect the choices made by investors, lenders and boards of directors. Further, he argued that research into the usefulness of OCI and AOCI would add value to our understanding of the importance of the different components of a financial statement. OCI and AOCI are important for standard-setting bodies and bank regulation; therefore, further evidence regarding these topics may contribute to global deliberations on these matters.

The other motivation behind the research question is to improve understanding of the concept of earnings quality in the specific context of the clean surplus assumption, through a consideration of the way net income (NI) and OCI are seen to behave over time. This study focusses on the role of accrual adjustments, based on Clout and Willett (2016), in the relationship between NI and OCI, as these are reported in the Statement of Comprehensive Income.

Earnings quality is important for standard setters, regulators and investors. In the setting of accounting standards, it is used to determine the choice of alternative accounting treatments for the important elements in financial statements (Ewert & Wagenhofer, 2013). Therefore, the use of flawed earnings quality models presents a danger of poor accounting measurement, disclosure and choice, resulting in reduced effectiveness of decisions based on those choices.

1.3 Method and Findings Summary

1.3.1 Methods

The methods for this study are divided into two parts. The first is used to characterise time series patterns in the accounting variables of interest. Thus, the evolution over time of clean surplus book value, NI and OCI is examined. This analysis also assesses whether accounting treatments mandated by standards explain the patterns observed. In the second part, unusual firm characteristics are identified, by selecting ten individual firms. Again, sequence plots of the reported book value of net assets and a calculated 'clean surplus value' of individual firms are plotted. By identifying patterns at the individual firm level, the accounts that are responsible for creating a difference between reported book value and clean surplus book value are examined. The movement of OCI items through retained earnings is also analysed.

1.3.2 Findings

This thesis finds that, in the cases of ConocoPhillips, Motorola and Duke Energy, the movement of losses attributable to discontinuous operation through retained

earnings and gains through the statement of operation indicate that these transactions are affecting earnings quality and are not reversing over time.

However, in some other cases (e.g., Archer Daniels and Tejon Ranch), other losses are reversed (reclassified) in the subsequent period. This indicates that transactions related to gains and losses of OCI are reversing regularly and indicates a lower probability of poor earnings quality.

For Compustat firms and in most industry groupings, OCI is strongly negative and losses are accumulated through movements in equity, which deviate reported book value from clean surplus book value. This results that the net book value of Compustat firms and most industries being lower than the net asset values from clean surplus principles.

For the firms Home Depot and Crawford & Company, there was some evidence in contradiction of the clean surplus principle that movement of repurchase and retirement of treasury stock through retained earnings affects the pattern of OCI. It also deviates reported book value away from clean surplus book value. Based on the criteria adopted in this study, earnings quality is judged to be lower in these firms.

1.4 Contributions and Implications of study

1.4.1 Contributions

This study contributes to the theoretical framework for earnings quality in the following ways. This study argues that clean surplus is a baseline against which reported earnings can be evaluated. Clean surplus income is considered the summary performance measure in firm valuation (Bernard, 1995; Dechow et al., 1999; Walker, 1997), the capture of ‘transparency’ and ‘visibility’ (Johnson & Swieringa, 1996; Johnson et al., 1995; Linsmeier et al., 1997) and the improvement of forecasting ability for upcoming earnings and cash flows (Kanagaretnam et al., 2009).

By using clean surplus as a baseline, this study contributes to the expectations of Ohlson (1995) that the assumptions in Ohlson (1995) model need to be clearly articulated to meet the needs of time series modelling.

This study also contributes to the literature by evaluating why the accumulative sum of other losses increases over time and may reverse over a longer period.

In addition, a contribution is made to the treatment of write downs or the "big bath", which affect earnings quality and reversal of OCI items are taking longer time. However, when exploring the firm Motorola further, the big bath occurred in 2011; more recent disclosures reveal that Motorola's profitability and contribution to Lenovo are now being questioned. One suggestion is that the early detection of declining earnings quality may predict the decline of a business.

Since 2011, the appropriate treatment of writing down discontinuous operations through retained earnings remains a problem for standard setters. The movement of OCI items directly through retained earnings violate clean surplus principles and create several issues which include a potential reduction in the informativeness and predictive power of accounting earnings (Thinggaard et al., 2006; O'Hanlon & Pope, 1999; Kanagaretnam et al., 2009); an increase in reported earnings (Paton, 1934; Littleton, 1940); a reduction in transparency and visibility (Johnson et al., 1995; Linsmeier et al., 1997; Paton, 1934; Littleton, 1940);

This finding of the treatment of write downs affecting earnings quality and has implications for securities exchanges. Triggers could be set that enable an exchange commission to monitor any firm's earnings quality over time. This also has implications for investment analysts and their commentary on earnings quality and reliance on earnings for investment decisions.

1.4.2 Implications

This study has several implications. First, there are implications for the 2011 standard. In some cases, large unrealised losses attributed to discontinuous operations are recognised through the equity section rather than the statement of comprehensive income after 2011. The omission of this very large write down from anywhere in comprehensive income had a very significant effect on a firm's pattern of income and resulted in a very unrealistic picture of the firm's long-term performance. This has implications for academic research, because losses are not going through income (clean surplus) and affecting the predictability of reported book value (Barker, 2004). The location of OCI gains and losses is not clear. Some OCI items moved through retained earnings however, some OCI items are moved through comprehensive income (Nishikawa et al., 2016; Schaberl & Victoravich, 2015; Lin et al., 2017). This study also has implications for auditors, with findings that companies are reporting gains and losses in contravention of FASB expectations.

Second, the reported book value of the companies studied is deviating from the theoretical clean surplus value. This means that the reporting of a firm's performance is overstated. This also means that the net book value of Compustat firms and many industry groupings are noticeably lower than the net asset values that would be expected from earnings reported in the income statement (i.e., assuming clean surplus principles in accounting measurement). The implication of this is that the reported book value component of income reported in the profit and loss section of the statement of comprehensive income has for many years provided, and is still providing, an unrealistically optimistic picture of the financial performance of Compustat firms. The third implication of this study is that the accumulative sum of other losses indicates that reversal of the unrealised gains and losses is taking longer. Reversals of the prior period may be occurring; however, the present period recognition is larger and shows the AOCI increasing.

Fourth, this study has implications for securities exchanges and investment analysts who evaluate the earnings quality of firms over time. The comparison of reported book value and clean surplus book value provides a barometer to

evaluate and, if necessary, investigate a firm's performance through its earnings quality.

1.5 Organisation of the Thesis

The remainder of this thesis is organised into six chapters. Chapter 2 reviews the relevant literature, explaining and framing the characteristics of earnings quality, clean and dirty surplus accounting, OCI and AOCI. Chapter 3 outlines the underlying theory on which this thesis is based, using definitions of the accounting concepts of the book value of net assets ('book value'), earnings and OCI, and the relationships between these accounting variables over time, assuming clean surplus principles. Chapter 4 describes the research methods used, including the models estimated, prior expectations of time series patterns of OCI, AOCI, earnings, reported book value, clean surplus book value, and identifying unusual firm characteristics. Chapter 4 also defines the variables used and the criteria for selecting the sample of firms used in time series analysis. Chapter 5 reports the results from the application of the research methods described in Chapter 4 and describes how clean surplus book value, earnings and OCI evolve over time. Chapter 5 also considers whether accounting treatments mandated by accounting standards explain the patterns observed. Further, these observed patterns of OCI exhibited by firms and the elements reported in their financial statements are examined to illustrate the underlying causes of the behaviour of the OCI variable. Sequence plots of OCI, AOCI, earnings, reported book value and clean surplus book value are provided. This information is presented as a set of time series graphs, either highly aggregated using the entire Compustat dataset or disaggregated to the level of an individual firm, to examine earnings quality. Chapter 6 analyses and interprets the results reported in Chapter 5, providing the empirical findings, implications and contribution of the study. Chapter 6 also includes recommendations, limitations and suggestions for future research.

Chapter 2: Prior Literature

2.1 Introduction

This chapter reviews the literature on earnings quality with respect to clean surplus principles, to provide the conceptual background for this study of earnings quality in accounting research. The following section contains definitions of earnings quality, and Sections 2.3 and 2.4 illustrate the clean and dirty surplus accounting concepts.

Section 2.5 outlines the debate on presentation of earnings. Section 2.6 reviews the literature on presentation of other comprehensive income items and its impact on earnings quality. Section 2.7 outlines prior discussions on AOCI and earnings quality and Section 2.8 summarises the chapter.

2.2 Earnings Quality

No unique definition of earnings quality exists (Bao and Bao, 2004). Definitions include predictors of long-term future sustainable earnings (Penman & Zhang, 2002; Dechow & Schrand, 2004; Dechow et al., 2010; DeFond, 2010; Bhattacharya et al., 2013; Melumad et al., 2010); smoothness of earnings (Francis et al., 2004; Dechow & Schrand, 2004); prediction of future earnings (Schipper & Vincent, 2003); lack of non-repetitive and special items (Dechow & Schrand, 2004; McVay, 2006); conservative application of relevant rules (Watts, 2003); and total accruals that are not associated and fundamental (DeAngelo, 1986: Jones, 1991; Dechow et al., 1995; Kothari et al., 2005). The following sections explore two concepts of surplus: clean and dirty.

2.3 Concept of Clean Surplus Accounting

Clean surplus (CS) income requires that all items that affect the book value of equity be included in earnings or flow in the income statement. Exclusions to CS include dividends and share repurchases/issues, which are measured at their market values (Claus & Thomas, 2001; O'Hanlon & Pope, 1999; Kanagaretnam

et al., 2009; Cahan et al., 2000; Paton, 1934; Ohlson, 1995; Isidro et al., 2004; Isidro et al., 2006; Rees & Shane, 2012; Du et al., 2015; Lee et al., 2006).

Under the CS method, the firm value is equal to its book value plus the total of the abnormal earnings (discounted) that the firm is anticipated to produce over its lifetime. The abnormal earnings are the difference between earnings and opening book value and the required rate of return (Walker, 1997; Tarca et al., 2008; Dong et al., 2011; Badertscher et al., 2011).

The equation of clean surplus book value is:

Clean surplus book value $$CEQ + \sum_{0}^{t} [\Delta RE - (NI - DVC - DVP)]_t$$

2.4 Concept of Dirty Surplus Accounting

Flows of dirty surplus (DS) arise if certain variations in shareholders' equity bypass the income statement and are directly reported in retained earnings. Examples of this are goodwill write-offs and asset revaluations (Wang et al., 2006; O'Hanlon & Pope, 1999; Kanagaretnam et al., 2009; Isidro et al., 2006; Isidro et al., 2004). DS is not included in reported earnings and, therefore, violates clean surplus accounting (Ohlson, 1995, Feltham and Ohlson, 1995).

According to Landsman et al. (2011), DS items are readily noticeable from the financial reports but items of 'really dirty surplus' are not. Really dirty surplus items arise from recognition of equity transactions, such as employee stock option exercises, rather than from fair market value. Landsman et al. (2011) found that dirty and really dirty surplus are not relevant for predicting unusual comprehensive income.

More transparent disclosure of financial reports is obtained from those from which necessary financial information can be more easily extracted and

effectively used to comprehend a firm's financial position (Hunton et al., 2006). The next section explores different earnings disclosure approaches and their impact on earnings quality.

2.5 Debate on Presentation of Earnings and Earnings Quality

The main purpose of the accounting theoretical framework is to provide decision makers with true and fair calculations and presentations of income. However, a longstanding issue relating to the presentation of income has remained a source of controversy between management and stakeholders of financial statements.

Since 1930, accounting information, particularly earnings information, has been organised according to the understanding that creditors and management are the main stakeholders of the accounting information. Over time, this focus changed to stockholders and investors. This new group was more concerned with the core earnings figure in income statements rather than with issues such as risk and liquidity. Therefore, companies take advantage of this and explore methods to improve their income amount by introducing unusual sources of income, which is assisted by the limited accounting definition regarding presentation of earnings items provided by the FASB (Nishikawa et al., 2016; Linsmeier, 2016)

2.5.1 Concepts of Income

Income is generally defined as all change in equity except those changes that result from transactions with owners, such as dividends.

The primary approaches used in income calculation are:

1. Income which are used as a measurement of management and company's performance.
2. Income which are used as an improvement of investors' wealth.

The first method of income calculation reflects only that income which is produced by predetermined activities such as the frequent use of fixed assets (Newberry, 2003). However, transitory gains and losses to purposeful activities are eliminated and these variations in capital value are not included in net income. This method is also known as 'present operating performance' and considers the

usage of historical costs and its distribution and compares revenue with control income.

The second approach, which uses the concept of income as an improvement in investors' wealth, captures income from the investor perspective. It is the difference between the invested amount and the amount that is available for distribution or that has been already distributed (Newberry, 2003).

Newberry (2003) argued that the main purpose of this approach is to raise an investor's wealth. Consequently, the approach of increasing investor's wealth takes superiority over the corresponding revenue with the costs and value that are realisable and significant for business assets and business obligations. This method of raising investors' wealth is also known as the 'all-inclusive notion of income'.

The FASB has approved the approach used for the improvement of investors' wealth or the interpretation of business assets and business obligations, as cited in some prior studies on theoretical frameworks (Robinson, 1991; Newberry, 2003).

The FASB Financial Accounting Standard Concept No. 3 changed the earnings term from comprehensive income FASB, (1974), which was used in Statement No. 1 (FASB, 1984). In 1985, Concept Statement No. 6 replaced Concept Statement No. 3, and the scope of 'financial statement elements' was extended to non-profit organisations (FASB, 1974;1985).

Johnson et al. (1995) explained that FASB concluded that earnings (net income) is a narrower term than comprehensive income and determined to make net income a part of comprehensive income. However, they did not provide any clear definition of 'earnings' in any of their following updates (Linsmeier, 2016).

After the release of Statement of Financial Accounting Standards No. 130 in 1997 (FASB, 1997), FASB left this issue unresolved, with management or those who prepare financial statements controlling sub-items that were used within earnings

(net income). Entities take advantage of this to highlight their sub-items of net income (commonly known as EBIT or EBITDA) to distract the attention of users from comprehensive income and earnings (net income) figures (Newberry, 2003). Entities gradually excluded many cost items, such as marketing and restructuring costs, from EBIT and EBITDA and claimed that these were non-recurring (Newberry, 2003).

Researchers raised many concerns regarding FASB's implementation of this 'improvement of investors' wealth' approach. They argued that it fails to recognise the models that are used in the valuation of assets and liabilities and the holding of historical cost. For instance, FASB required entities to follow the realisation principle and the impairment of assets at the same time. FASB believed that these two requirements were consistent with the aim of the improvement of investors' wealth (Newberry, 2003). The Securities and Exchange Commission (SEC) and American Accounting Association (AAA) also supported an all-inclusive income approach (Johnson et al., 1995).

2.5.2 Comprehensive Income

The term 'comprehensive income' is consistent with the all-inclusive approach. The FASB considered the request from the main users of financial statements to have one income amount for all shareholder' equity changes, excluding transactions with owners for a specific time (Robinson, 1991).

Robinson (1991) argued that some earnings items move through retained earnings and raise several controversial issues, giving the foundation for an amount that includes all income components and leading to changes in the overall underlying financial performance of organisations.

The FASB sustained the prior argument and defined 'comprehensive income' in its prior updates, which was consistent with the all-inclusive income approach (Johnson et al., 1995).

However, there was ongoing usage of the term ‘earnings’ for calculating income, which was narrower in scope than ‘comprehensive income’. FASB appears to be flexible to reporting income using the current operating measures of performance and income approaches, which are used for improvement of investors’ wealth. Therefore, FASB needed to clarify the all-inclusive income concept (Johnson et al., 1995).

2.5.3 Other Comprehensive Income and its Components

Unrealised gains and losses related to foreign currency exchange, minimum pension benefits plan and marketable securities are known as other comprehensive income (OCI). These are the items that are excluded from net income but included in comprehensive income (Kim, 2016; Henry, 2011).

Table 2.5.1 outlines the details of other comprehensive income (OCI) components.

Table 2.5.1: Other comprehensive income (OCI) items under generally accepted accounting principles

Major components of OCI	Reference
Unrealized gains/ losses on holding available-for-sale securities.	ASC 320-10-45-1
Unrealized gains/losses occur because of transfer of debt security into the category of available for sale from the held-to-maturity category.	ASC 830-30-45-12
The amount that is recognized in OCI for debt securities categorised as available-for-sale and held to maturity, apart from temporary impairment recognised in accordance with ASC 320-10-35 if a portion of the impairment was not recognised in earnings.	ASC 320-10-35
Any subsequent increase/decrease (apart from a temporary impairment) in the fair value of available-for-sale securities that are written down as impaired previously.	ASC 320-10-35-18
Any gains/losses on derivative instruments that are classified	ASC 815-20-35-1(c)

as cash-flow hedges.

Any gains or losses on pension and post-retirement benefits plan	ASC 715-20-50-1(j)
Prior service costs or credits on pension and post-retirement benefits plan	ASC 715-20-50-1(j)
Transition assets or obligations associated with pension or other post-retirement benefits (that are not recognised immediately as a component of net periodic benefit cost).	ASC 715-20-50-1(j)
Foreign currency translation adjustments	ASC 830-30-45-12
Gains and losses on foreign currency transactions that are designated as, and are effective as, economic hedges of a net investment in a foreign entity, commencing as of the designation date	ASC 830-20-35-3(a)
Gains and losses on intra-entity foreign currency transactions that are of a long-term investment nature (i.e., settlement is not planned or anticipated in the foreseeable future), when the entities to the transaction are consolidated, combined or accounted for by the equity method in the reporting entity's financial statements	ASC 830-20-35-3(b)

Source: (Black, 2016) Page No. 11

In last two decades, the FASB has released several updates to improve presentation of OCI components. The next subsection explores these updates.

2.5.3.1 The FASB and marketable securities

Marketable securities are the first item that was excluded from net income by an accounting pronouncement. Unrealised gains/losses relating to marketable securities are considered the largest components of OCI (Yen et al., 2007; Johnson et al., 1995; Dehning & Ratliff, 2004). Marketable securities were directly related to equity in 1975. Accounting Research Bulletin (ARB) No. 43 offered few guidelines for the various exercises on gains and losses relating to marketable securities and its necessary valuation (FASB, 1953). The valuation of marketable securities is divided into the categories lower of cost or market value,

and as present assets if the reduction in assets value was not transitory. Reduction in value was included in income, although write-ups of prior write downs were not addressed (Arzac, 2005; Bartolini & Cottarelli, 2001).

Companies wrote down their securities during a sharp decline in stock prices in 1973 and 1974. At the time of market recovery, carrying amounts were lower of cost or market value. The Screening Committee on Emerging Problems raised this concern and requested that the FASB release guidance relating to marketable securities as quickly as possible (FASB, 1975). To expedite this project, FASB did not release a discussion memorandum and used a narrow project scope, providing guidance to companies only when they could write down marketable securities and could undertake write-ups prior to the write down of marketable securities (Board, 1975; Dyckman & Smith, 1979; FASB, 1975).

Companies were required to evaluate the worth of their marketable securities based on a portfolio with a variation between market value and aggregate cost suggesting a valuation allowance (FASB, 1975). In terms of current assets, valuation allowance changes were reported in income and changes relating to the non-current portfolio were reported in equity (FASB, 1975).

Given the importance of the project, the FASB adopted an unprincipled solution and, for the same reason, abstained from conceptual explanations of the unrealized gains/losses recognition (FASB, 1975). Though examples for direct reporting of marketable securities into equity existed in specific of insurance companies (Kirk, 1989).

Grinnell and Norgaard (1980) argued that most of the marketable securities covered in the Exposure Draft FASB, (1975) were non-current and that accounting standards were designed with expectations of the implementation of present value as an essential part of the system of financial reporting.

The current value for marketable securities gained more recognition in the last two decades. Many institutions became bankrupt in the 1980s and accounting was

considered an issue that influenced the severity of savings and crises from loans. A tendency rapidly developed of support for the application of present values to securities investments. The SEC motivated the usage of market-based events for the valuation of various debt securities (Wyatt, 1991; Eckbo, 1986).

The SEC Chairman, Richard C. Breeden, analysed savings and loan disasters for the Senate Committee meeting on Banking on 10 September 1990 and suggested that a market value approach be accepted (Beresford, 1993).

Breeden also explained that financial organisations were actively involved in managing their business assets and portfolios' liability for recurrent securities trading (Beresford, 1993). He furthered explained that historical cost accounting unsuitably portrayed the environment that he named for the usage of valuation of market-based events at an earlier likely date (Beresford, 1993).

The FASB moved quickly to consider the SEC's view in its project on financial instruments, with this item added to the agenda in 1986. The FASB allocated more than half of its time in 1986 on the project, soon intended to require market-based measures for some financial assets and permit the option of using market-based measures for related liabilities (Johnson et al., 1995).

There was debate among researchers regarding which marketable securities should be measured at fair value and whether holding gains and losses should be documented in income. At one stage in the process, most researchers agreed that holding gains and losses should be eliminated in earnings (e.g. Johnson et al., 1995). A month later, few researchers supported the inclusion of holding gains and losses in earnings. This support diminished in early 1992 as FASB, under pressure from financial organisations, were required to revisit their earlier conclusions (Zeff, 2002; Laux & Leuz, 2010; Barth, 1994).

FASB's Director of Research and Technical Activities at this time, Timothy Lucas, proposed a solution for negotiations that allocated marketable securities to any one of three groups. If a company intends to hold its debt security until

maturity, the monetary instruments would be approved at the cost of amortisation in the 'held for investment' group. If the company has no intention to hold security until maturity, the category would be 'held for possible sale' and approved at fair value with holding gains/losses eliminated from income. In the last group, trading would also be approved at fair value; however, holding gains/losses would be included in earnings (Johnson and Swieringa, 1996).

Following the previous three categories, an Exposure Draft was issued in September 1992, which many researchers criticised strongly; about 70 per cent of the comment letters issued on financial organisations were concerned that the FASB would make organisational capital more unstable (Johnson and Swieringa, 1996). However, FASB supported its conclusions and issued SFAS No. 115 (FASB, 1993). They also released updates in 1997 and 2011 to make the presentation of marketable securities more transparent (FASB, 1997;2011).

2.5.3.2: The FASB and foreign currency translation

The foreign currency translation was initially discussed in FAS statement No. 8 (FASB, 1975). In response to extensive debate and criticism of this update, the FASB revisited its approach and released SFAS No. 52 (FASB, 1981).

Under the new FASB update, entities were required to manage with floating exchange rates within a progressive environment of international business after the expiry of Berthon Woods's system (Beresford, 1993).

Accounting practice was very diverse such that the FASB sought to create uniform guidance for both foreign currency transactions and the translation of foreign currency financial instruments. The discussions were grounded in existing conceptual premises, which was an all-inclusive income statement approach and a historical cost framework.

The planned time-based method recommended assets translation that was based on the historical cost at a conversion of historical rate and on the measurement of translation items at present value at a present conversion rate.

The adjustment related to translation must be presented in the income statement. The FASB approved this method and issued SFAS No. 8 FASB, (1975), which approved one dissident vote that predicted applied issues with the accounting standard because the fluctuations of conversion rate would increase the volatility of net income.

Academics and practitioners criticised this accounting standard heavily and claimed that it motivated uneconomic movements because companies strongly emphasise bottom line (i.e., net income). FASB required the companies to follow more aggressive management risk plans to manage the volatility of earnings (Evans et al. 1978). However, due to the strong criticism, the FASB decided to revise SFAS No. 8 in 1979.

FASB determined that adjustment relating to foreign currency should not be part of income from continuous operation and that it cannot be reported as part of earnings. However, it can be reported as non-operating items (FASB, 1989). FASB also released SFAS No. 52 for introduction of the 'functional currency method', in which companies were required to report foreign currency adjustments in stockholders' equity (FASB, 1981).

The FASB investigated the recommendations that were made most frequently by its voters and clarified how it had responded to them. This was a clear sign that it was willing to listen to its critics and change its mind on foreign currency translation. This attitude also implied that negotiation in the case of foreign currency translation was more important than a conceptually pure approach (Johnson et al., 1995). There is still substantial disagreement between FASB members, as explained in SFAS NO. 52 (FASB, 1981). The four responders had two different opinions regarding adjustments of foreign currency translation. One group emphasises the effects of economic changes on exchange rate, whereas the

other group considered them a by-product of the foreign currency translation process.

The three groups, which included the FASB Chairman rejected important pre-existing ideas that would echo outside the standard of foreign currency translations. They condemned items being remeasured while being held and foreign currency adjustments being reported in equity. A delay of income recognition was intended to address differences in opinion on existing applied realisation ideas. The FASB did not favour including the distinct equity components in income, because of the adjustments recorded in the emerging notion of comprehensive income (i.e., the first group) or equity adjustment (i.e., the second group).

FASB decided to practice recycling by including adjustments in foreign currency translation in income, which is part of the net gains and losses on sale or closing of the fundamental investment (FASB, 1987). However, it was claimed that these data were 'possibly marginal' at the time of sale or closing of underlying investment, and that the translation adjustments, which had been unrealised, would be realised. It was also argued that non-owner translation that alters the equity section need to be recognised in income at all stages (FASB, 1987).

The FASB reflected that its decision was 'desirable till the further development of reporting of comprehensive income components' that is, awaiting conclusion of the fundamental concept of income, after which the handling of adjustments of foreign currency might be reviewed (FASB, 1987).

FASB members' negotiation ability was later developed by the affiliation of the conceptual framework project, in which presentation of earnings items was discussed.

Stakeholders raised a concern that an all-inclusive income approach controlled much noise and was not providing information relating to earning power. The FASB investigated the reporting of earnings and provided a multiple-step format

to decrease the focus on net income. FASB developed the net income concept, also known as comprehensive income (FASB, 1974). This represents the total variation in equity during an accounting period resulting from non-owner sources.

Although it was intended to show transitional items as subtotals, CI did not develop from SFAC No. 3 and a well-defined approach. Some FASB members highlighted the desertion of earnings as a measure of performance. The FASB has been irresolute regarding the ideal approach of capital maintenance. Before the release of SFAS No. 52 FASB, (1981), the FASB released an exposure draft on reporting of income, balance sheet items and cash flows, in which a revised statement of operation was debated in comprehensive terms. The FASB recommended that gains and losses be reported in a layered arrangement, with subtotals for discontinuous operations, operating activities and related activities.

This income presentation would protect ‘core earnings’ from the impact of remeasurements and may fit foreign currency translation into the broad income concept. The FASB could not approve an advanced stage of the conceptual framework in acknowledgement and measurement, and it deferred its reporting income project; however, it combined some of the reflections in Concepts Statement No. 5 (FASB, 1984). It was recommended that insights into volatility and realisability clarify why such components, such as foreign currency translation adjustments, were excluded from income (FASB, 1984).

In summary, remeasurement of the statement of position (balance sheet) was introduced in SFAS No. 52 by demanding the usage of foreign currency exchange rates (FASB, 1981). This made income vulnerable to the fluctuations of exchanges rates. A principal concern of SFAS No. 52 was to protect the statement of operation from volatility and from the dishonest solution of reporting foreign currency translation adjustments in equity (FASB, 1981).

2.5.3.3: The FASB and pension accounting

FASB's pension benefits plan project ran for more than 10 years. During this time, entities frequently requested the FASB to streamline the standard of the pension benefits plan on their financial reports (e.g., Miller & Redding 1992; Van Riper 1994; Miller et al. 1998).

The Financial Accounting Standard Board (FASB), after negotiation and lengthy debate, released SFAS No. 87 in 1985 and SFAS No. 88 in 1966. These two standards focused on dimensions of irregular pension expenses and approved reasonable benefits at the time of this expense determination. The Employee Retirement Income Security Act (ERISA) raised public awareness of the scheme of the pensions by making pension claims imposable by law in 1994.

ERISA restricted participants authorised claims on an entity's pension assets to a maximum of 30 per cent of the plan backer's net value.

However, researchers raised a concern regarding whether an entity's pension commitment that is not funded would be documented; meanwhile, the large number of plans that are not funded had engaged the media and public (Lucas & Hollowell 1981).

The FASB introduced two further schemes to its program by considering the positive public response to the pension benefits plan in SFAS No. 35 (FASB, 1974).

The release of SFAS No. 35 raised two concerns. The first concern related to the reporting of pension benefits plans in financial statements. The second concern related to the accounting treatment of employee pension benefit plans, which were expected to inform the conceptual framework (FASB, 1974).

The FASB released a contextual paper in the early 1980s, followed by a discussion memorandum in February 1981, which examined the fundamental

pension accounting issue and its potential reporting requirement. The FASB released its conclusion as ‘initial views’ in November 1984, which followed the discussion memorandum in April 1983 (Beresford, 1993).

The FASB supported the acknowledgement of a net pension obligation for employee-defined pension benefit plans, which is measured as the obligation of the pension benefit plan. This originated from the relationships between the employees’ pension benefit plans and present forecasting regarding future salary levels; the plan assets’ fair value and plus-minus allowance of valuation measurement are barrier elements that are part of the obligation of the net pension plan to encompass measurement variations in the liability and plan assets.

The FASB received 500 conflicting replies from preparers and from seven of the ‘Big Eight’ accounting firms (Johnson & Swieringa, 1996). Apart from an obligation recognition, which was harmful to entities’ capacity to borrow, respondents criticised the upcoming salary level use in the obligation measurement and reasonable estimate of plan assets. These two were not seen as fundamental sources of volatility. Entities were encouraged to act and started a ‘prolonged search regarding the subtle scheme’, using pressure on the FASB and adopting an aggressive attitude towards the FASB’s modus operandi (Van Riper, 1994, pp. 119–20). To avoid harm to the community of business that the suggestions were supposed to affect, it was frequently recommended to FASB that it alters its course.

The FASB considered more than 400 comments and letters and released an exposure draft (FASB, 1975). FASB had responded to the concerns raised by stakeholders by making reasonable negotiations over time. The employee’s liability was based on the present level of salary rather than the upcoming level, reflecting an accrued benefit liability.

Many events were connected to the earnings volatility that the process of measurement would bring about; for instance, use of the forecast plan assets’ rate

of return rather than the real rate of return, and using the corridor method to repay unforeseen gains and losses on plan assets (Miller, 1987).

Additionally, a smoothing approach raised a concern about the acknowledgement of an extra pension liability, which was compulsory when the documented obligation was less than the variation between the accrued pension lability and reasonable plan assets' value.

The additional obligation did not surpass previous service charges, which are not recognised and create an intangible asset. The surplus of the extra minimum pension obligation over previous service charges was reported in equity for the protection of the statement of operation, in contradiction of, and additional to, charges of the pension.

The FASB recognised that a theoretically suitable explanation would have used a different path and that those gains and losses should be documented and deprived of any interruption. Therefore, the FASB conducted research into additional and more valuable accounting treatment of pension benefit plans.

The *Sarbanes-Oxley Act 2002* had mandated the SEC to study off-balance sheet arrangements among other issues. The SEC raised their concern regarding accounting treatments of pensions permitting entities to present fewer obligations. The SEC requested a review of the accounting treatment of defined benefits agreements, which was to involve an alliance of pension plans, remove the smoothing method and see a return to plan assets' valuation.

The FASB divided its subsequent plan into two stages. In the initial stage, the FASB introduced the presentation of the balance sheet of pension accounting, formally reassessing the theme and potentially working together with the International Accounting Standard Board (IASB). The initial stage was quickly finished, with SFAS No. 158 (FASB, 2006). SFAS No. 158 progressed the acknowledgement of pension assets and liabilities on a net basis and did not alter the control of irregular pension charges.

In contrast, a company's balance sheet was to display the subsidised rank of the employees' pension benefit plan, measured as the change between the fair value of plan assets and the benefit liability. Any gains and losses that are not recognised, and any previous services charges, were collectively known as OCI. Gains and losses that are not included in net income are called OCI items as per section 6 of SFAS No. 87 (FASB, 1985). The charges of OCI should then be to re-categorise the statement of operation at the time of recognition as a portion of benefit cost, which are periodic.

SFAS No. 158 allied accounting treatment of pensions more carefully with the items defined by conceptual framework and made the requirements easier to understand by eliminating the acknowledgement of a minimum pension liability and an intangible asset (FASB, 2006). At the time, it prolonged the use of OCI items, as the FASB deliberately included this approach of acknowledgement, which is consistent with the prior approach to the adjustment of minimum pension obligation (FASB, 2006).

2.6 Debate on Presentation of Other Comprehensive Income Items and Earnings Quality

All income items that affect the book value of equity as part of earnings or that flow through the income statement are known as clean surplus income. These items are also known as those earnings items that are presented above the line of core earnings (Barker, 2004). However, several OCI items that flow directly through retained earnings and bypass the income statement are called dirty surplus (DS). These include unrealised gains/losses relating to foreign currency transactions, pension benefit plans and unrealised holding gains/losses on marketable securities.

Cope et al. (1996) argued that the FASB struck an all-inclusive approach to comprehensive income and did not approve a standard that clarified reporting of other comprehensive income.

Cope et al. (1996) reported to the Association for Investment Management and Research (AIMR) and raised a concern to the FASB on the flexibility provided to entities to bypass several items from the statement of earnings and report them directly into retained earnings.

The Financial Accounting Policy Committee of AIMR recognised similar examples that enabled some items to bypass the income statement Financial Statement No. 115, Accounting for Certain Investments in Debt and Equity Securities and Financial Statement No. 52, Foreign Currency Translation (FASB, 1981;2006).

The main purpose of initiating a comprehensive (or all-inclusive) income approach was to ensure the consistency of standards by presenting all variations in shareholders' equity during a period, which includes all income statements and OCI items but excludes transactions with owners (Cope et al., 1996). The practice of avoiding several earnings components in the income statement was fundamentally diminishing the basis of the all-inclusive approach implemented by the FASB. Further, the AIMR report originated from the opinions that the conceptual base is weak, which supported the FASB permitting entities to bypass several items from the statement of earnings.

In addition, Cope et al. (1996) argued that the fundamental notion of the AIMR report was to identify those earnings items that were connected with performance but were not presented in the financial performance statement. AIMR suggested that bringing an end to this exercise of avoiding certain components from the statement of earnings would support the building of a solid theoretical foundation for the presentation of earnings items and the inclusion in the statement of financial performance or income statement. In this presentation of earnings, items could become more transparent.

Johnson et al. (1995) noted that the FASB decided on 13 September 1995 to include a project on comprehensive income in its technical program. Johnson et al. (1995) also mentioned that, while the FASB was exploring methods to present

income, the United Kingdom's (UK) Accounting Standard Board (ASB) initiated a 'total gains and losses statement' that is recognised as an addition to the 'statement of earnings', the line that was listed at the bottom of the income statement and was slightly similar to that defined by FASB comprehensive income. Johnson et al. (1995) also explained that SFAS No. 3 FASB, (1974) was considered for the exhibition of 'notes relating to past gains and losses', which was a reduced component of the income statement. The main purpose of illustrating these developments is to show the items of gains and losses based on historical cost, which make the end line of the corresponding notes consistent with that listed as net income.

In 1996, FASB released an exposure draft and proposed statement for comprehensive income, considering the concerns raised by financial statement users regarding an all-inclusive measure (Smith & Reither, 1996).

According to this exposure draft, companies would be required to show all variations in equity, excluding transactions with owners (e.g., dividends), in a performance statement (Smith & Reither, 1996).

The major purpose of this exposure draft was to make the movement of comprehensive income items more consistent and to avoid the movement of earnings items directly through retained earnings (Smith & Reither, 1996).

In addition, the exposure draft explained the items that are used to bypass the income statement and called these items 'other comprehensive income (OCI)'. This includes unrealised losses relating to pension benefit plans and foreign currency translation.

FASB also released SFAS No. 130 in 1997, which addressed 'presentation of comprehensive income' (FASB, 1997). This update was effective for the accounting period starting after 15 December 1997. SFAS No. 130 required companies to report comprehensive income and clarified the requirements of the statement of comprehensive income (FASB, 1997).

Under SFAS 130, entities must present all earnings elements, including OCI items, in CI in a manner that is visible, similar to other items in financial statements (FASB, 1997).

However, the FASB did not specify any template for the presentation of comprehensive income, although companies were required to report the comprehensive income amount in a financial statement (FASB, 1997).

The SFAS No. 130 requires companies to classify items of OCI according to their nature in a statement of comprehensive income and to show AOCI in the equity section of the balance sheet (FASB, 1997). The FASB also attempted in 2011 to make the presentation of OCI and AOCI more transparent (FASB, 2011).

Currently, the major questions under consideration are (Cauwenberge & Beelde, 2007): Should OCI standards be revised? Should a single performance statement be more important than a double performance statement of CI? Should EPS be calculated based on NI or CI?

The main issue is not the use of CI or NI as a baseline, but the importance of these statements. If stakeholders give greater preference to CI, users may not be able to understand the various analytic physiognomies of its earnings components (Tarca et al., 2008). If less importance is given to OCI components, this may increase the risk of OCI items being overlooked (Robinson, 1991). Therefore, it is important to explore how the presentation of OCI items affect earnings quality.

2.6.1 Transparency and Visibility of OCI Items

There has been extensive debate among researchers regarding whether earnings should be reported on a clean surplus basis or whether entities should be given permission to exclude certain dirty surplus items from reported earnings.

Researchers have expressed concerns that accounting the practice of dirty surplus might be used to increase reported earnings (Paton, 1934; Littleton, 1940); the exclusion of all non-shareholder flow of accounting in comprehensive income might decrease the 'transparency' or 'visibility' of significant flows (Johnson et al., 1995; Linsmeier et al., 1997).

The argument of creative accounting and the absence of transparency against dirty surplus arose from a reawakening by Ohlson (1995) and others to the recognised associations between book value, monetary value and likely upcoming clean surplus residual income.

It has been argued that the appearance of the equity capital value in relation to expected dividend can only be rerecorded in relation to expected accounting earnings if likely non-shareholder flows are included in those expected earnings. Consequently, prediction of clean surplus earnings is considered more useful than dirty surplus earnings (Linsmeier et al., 1997).

Recently, standard setters in various countries have constrained the use of dirty surplus accounting, with the aim to increase the transparency of dirty surplus reporting. The UK ASB released FRS 3: Reporting Financial Performance, which required entities to report dirty surplus flow in a more transparent and universal fashion (ASB, 1992).

The ASB has also released many declarations that restrict the use of dirty surplus accounting, such as in the purchase of goodwill. Although the treatment of dirty surplus accounting has been a negligible feature of the US Generally Accepted Accounting Principles (GAAP) in recent decades, the SFAS No. 130 addressed the presentation of comprehensive income (FASB, 1997).

The FASB required entities to report dirty surplus items within the main financial statements under the title 'other comprehensive income'. FASB also required entities to show their income on a more comprehensive basis and have received opposition in some quarters. For instance, some UK analysts expressed their

concern that the shift to a more comprehensive income will enhance the volatility and reduce the predictive ability of those numbers (Davies et al., 1994).

2.6.2 Persistence and Predictability of OCI items

2.6.2.1 Persistence

Lipe (1986) concluded that the various earnings components have dissimilar persistence and that the reaction of market scale to specific earnings items is linked to the individual persistence of each earnings component. Many researchers have argued that OCI gains and losses are transitory and have zero persistence (Fairfield et al., 1996; Bradshaw & Sloan, 2002; Burgstahler et al., 2002; Linsmeier et al., 1997; Barker, 2004; Chambers et al., 2007; Yen et al., 2007), but for different reasons. For instance, Burgstahler et al., (2002) argued that the correlations between OCI gains and losses and non-recurring charges are high and are excepted from GAAP earnings by experts.

Although OCI items are linked to variations in economic circumstances, an assumed item (e.g., a specific machine) does not characteristically yield unusual gains and losses (i.e., OCI gains/losses) every year.

However, OCI gains and losses produced by assets and liabilities change in value each year; consequently, they will reappear in the next period for similar assets and liabilities. An example of this is the availability for sale and marketable securities changes that are reported at their market value at the end of each year.

However, in the case of efficient markets, recent gains and losses on available sale securities should not forecast future gains and losses on available sale securities.

Some researchers have argued that OCI gains and losses may not be fleeting; for instance, Elliott and Hanna (1996) argued that several OCI gains and losses reappear over time.

Cready et al. (2010) provided evidence of managers finding it attractive to categorise normal reappearing operating expenses as special items. Gains and losses relating to OCI may not be transitory. The choices of management are linked to investment selection, asset sale timing, pension plan funding and derivatives duration contracts (Lee et al., 2006).

Consequently, the reflection of OCI gains and losses occurs more than fair value changes, which are unpredictable in market conditions. OCI gains and losses that are accumulated will 'recycle' at the time of assets sale or the settlement of liability. For instance, with the sale of available-for-sale security for accumulated gain, this gain (profit) would previously be detached from AOCI on the balance sheet and be recorded as OCI negative items, while also being documented as a positive item of cash flow and net income. This relic of the treatment of accounting for OCI gains/losses may lead to negative persistence in the case of regular reversal of OCI items. However, unusual gains and losses may persist on the balance sheet for many years, which previously were the sale of underlying assets or settlement of liability.

2.6.2.2: Predictive Value

Researchers have argued that different earnings components have dissimilar predictive value (Sloan, 1996; Fairfield et al., 1996; Dechow & Ge, 2006) and that earnings that are not accumulating into components improve the predictability of the future (Fairfield et al., 1996; Barth et al., 2001). Prior studies have shown a positive association between OCI components and future earnings. However, the coefficients of OCI gains and losses are smaller than those of operating income and net income (Fairfield et al., 1996; Burgstahler et al., 2002; Dechow & Ge, 2006; Fairfield et al., 2009).

Further, Cready et al. (2010) argued that the capacity of OCI losses to forecast upcoming performance is greater when entities have recorded negative OCI items in previous quarters. However, researchers have not found any direct evidence regarding the forecast value of OCI.

Cready et al. (2010) also explained that gains and losses of OCI should not have implications for upcoming entities' financial performance or upcoming cash flows. Previous changes in the OCI gains/losses value have no implications for upcoming variations and, therefore, are unlikely to be linked with upcoming cash flow. In contrast, Ohlson (1995) proves how present gains and losses from a forward contract may not be able to forecast upcoming gains and losses from such a contract (i.e., it may display zero persistence), although it may still forecast upcoming earnings (FASB, 2011). In the case of substantial reversal of OCI gains and losses before its realisation, it appears reasonable to expect that there will be no consequences for upcoming cash flow. In contrast, if gains and losses of OCI accrue on the balance sheet for many years through the sale of assets, settlement of a liability or funding of a pension plan, there might be a relationship with upcoming cash flows.

2.7 Accumulated Other Comprehensive Income and Earnings Quality

Definition: Accumulated other comprehensive income (AOCI) accrues all items of OCI, which archives unrealised and realised gains and losses from specific business transactions (Jones & Smith, 2011; Hirst & Hopkins, 1998; Rees & Shane, 2012; Black, 2016).

These irregular or unusual gains/losses recorded in OCI include foreign currency translation adjustments, minimum pension benefit plans and marketable securities classed as available for sale (Elliott & Hanna, 1996; Bradshaw & Sloan, 2002; Cready et al., 2010). The unusual gains and losses of OCI are deferred in the balance sheet's AOCI until realised (Dhaliwal et al., 1999; Jones & Smith, 2011).

Jones and Smith (2011) argued that the correlation between gains and losses presented in OCI and AOCI are very high on the balance sheet. At the time of sale of assets or the settlement of obligation, accumulated OCI gains or losses will 'recycle'. For instance, if the fair value of marketable securities is sold for an accumulated gain, then this gain will be eliminated from AOCI on the balance

sheet and be recorded as a negative item of OCI, while also being documented as a positive component of net income and cash flow.

Regular reversal of OCI items leads to negative persistence, as per the current accounting treatment of OCI gains and losses (Black, 2016; Jones & Smith, 2011). However, unrealised OCI gains and losses may persist in part of the balance sheet for many years until the sale of underlying assets or settlement of liability (Emrick et al., 2006).

The use of AOCI is expanded to identify numerous variations in net assets and, probably, the extension of OCI items, strengthening the perception that the FASB must ultimately come to terms with the difference between OCI and NI (Rees & Shane, 2012).

The realised gains and losses on marketable securities detained by commercial banks and re-categorised from AOCI to net income offer step-by-step information to the market (Dong et al., 2011; Rees & Shane, 2012).

These re-categorised gains and losses of OCI are treated like other earnings components with high persistence, while gains and losses that are unrealised and documented in OCI are treated like earnings items with low persistence (Dong et al., 2011).

Ohlson (1995) argued that transitory flow of OCI items should not be included at the time of valuing shareholders' equity and predicting upcoming earnings, although the 'supplies' of these items included in AOCI 'may be pertinent for the sake of predicting and assets valuation'. In particular, Ohlson (1999) claimed that predicting the insignificance and unimportance value suggests that an item is transitory if these circumstance hold.

The transitory flow of OCI items may not be valuable for obligation contracting. However, Ohlson (1999) also argued that the OCI may be a valuable pointer of

stockholders' wealth due to their impacts on the book value of shareholder's equity through AOCI.

Black (2016) reviewed the possibility of conducting research on AOCI and tier 1 capital for financial organisations. He argued that recent changes in accounting treatment of AOCI are important to consider while calculating regulatory capital for banks. He further argued that tier 1 capital is considered an important indicator of solvency and financial strength of a bank.

Similarly, debate between standard setters and researchers regarding OCI and numerous similar issues were related to the Federal Deposit Insurance Corporation (FDIC) via comments on changes that were proposed to tier 1 capital. Banking organisations, industry groups and public officials gave contrasting opinions regarding the inclusion of AOCI components in common shareholders' equity in tier 1 capital. They argued that inclusion of most AOCI components in tier 1 capital, particularly gains and losses that are unrealised on AFS debt security, may cause volatility in capital levels (Black, 2016).

However, FDIC believed that the planned changes in the accounting treatment of AOCI in relation to the measurement of regulatory capital-improved FDIC-supervised institutions posed real risk at a particular time. The FDIC also claimed that accumulated OCI is a fundamental indicator of market spectators, which is used to assess the capital strength of financial institutions (Black, 2016).

Smith and Reither (1996) argued that accrued balance of pension plan liability constantly decreases shareholders' equity. The variation in minimum pension liability is recorded as one component of OCI, as per the exposure draft FASB (1975) provision. The change in comprehensive income depends on the decrease or increase in equity balance. The amount recognised in OCI may be volatile as an entity identifying an adjustment, which reduces equity and comprehensive income in one period and reverses that adjustment, with an increase in equity and comprehensive income, in the following period.

AOCI is an important measure of earnings quality for a range of reasons, including: the reclassification from AOCI to NI offers step-by-step information to the market (Dong et al., 2011; Rees & Shane, 2012); it is an important indicator for investors to assess the financial position of entities (Black, 2016); reclassification of gains and losses from AOCI to earnings in the subsequent period increases transparency and visibility of earnings (Hernandez, 2003); and it avoids repeating gains/losses in OCI as opposed to gains/losses presented in reported earnings (Hunton et al., 2006).

When presenting OCI gains and losses as part of the changes in the balance sheet account, AOCI is not prominent and, therefore, reduces the transparency of earnings items (Hirst & Hopkins, 1998; Maines, 1995), reduces expert aptitude to notice poor earnings quality and earnings management (Hirst & Hopkins, 1998), and captures various changes in assets (Rees & Shane, 2012). Further, AOCI includes dirty surplus items, which impair the quality of earnings and reduce the usefulness of income information (Dhaliwal et al., 1999; Biddle & Choi, 2006).

2.7.1: Reclassification Adjustments out of Accumulated Other Comprehensive Income

The FASB requires entities to display separately the OCI components in comprehensive income. Stakeholders raised many concerns on the reclassification adjustments out of AOCI. They argued that timely reclassification adjustment avoids double counting and increases the transparency of OCI items. In addition, they claimed that allowing reclassification adjustments to be reported in the footnotes may present vague information and, as a result, reduce the transparency of information.

2.7.1.1: Location of OCI items and Transparency

SFAS No. 130 allows entities to show reclassification adjustment in the statement of comprehensive income or in the footnotes (FASB, 1997). Regarding the display of information in the statement of comprehensive income, FASB require entities to show each component of reclassification adjustment except pension

liability adjustment or total OCI displayed. Reclassification adjustments are not organised for the adjustments of minimum pension plan liability, because these adjustments are measured by mesh or plugging (Ketz, 1999; Foster & Hall, 1996; Hunton et al., 2006; Brauchle & Reither, 1997).

Hunton et al. (2006) argued that the realised gains and losses on sales of marketable security is the only OCI component that is clearly presented in the financial statement where comprehensive income is presented.

SFAS No. 130 offers numerous potential formats for reporting OCI items (FASB, 1997). However, FASB encourages entities to report OCI items in the income statement. This can be done by merging the statement of earnings with the statement of comprehensive income or by displaying two different statements separately. The least preferred format for reporting OCI items was in a statement of changes in shareholders' equity (Ketz, 1999; Bamber et al., 2010; Bhamornsiri & Wiggins, 2001; Maines & McDaniel, 2000).

Several respondents, who prepared financial statements, claimed that the location of OCI items and reclassification adjustments may affect the judgement of investors (Yen et al., 2007; Shi et al., 2017).

2.7.1.2: Double Counting of OCI Items in Net Income and Transparent Information

SFAS No. 130 permitted entities to display all CI items net of income taxes (FASB, 1997). Conversely, entities could show all components of CI on a before-tax basis and link the total tax, because of each OCI item. Variations in presenting OCI items does not affect liability of income tax; therefore, the expense of income tax or benefit is offset by deferred taxes (Ketz, 1999; Hunton et al., 2006; Foster & Hall, 1996).

The FASB prefers not to double count business transactions in comprehensive income, which may be likely if an entity places OCI items into the statement of

comprehensive income in one year and the same items into the statement of operations in a later year.

To manage the risk of double counting, the FASB requires entities to record reclassification adjustments for transparent information (Ketz, 1999; Hunton et al., 2006; Cope et al., 1996; Goncharov & Hodgson, 2011; Jones & Wilson, 2000; Nobes, 2012; Luecke, 1998).

Nishikawa et al. (2016) used the terms 'reclassification adjustments' and 'recycling' interchangeably. They argued that the main purpose of reclassification adjustment is to avoid double counting of CI items that are shown once in net income and again in OCI.

Hodgson and Russell (2014) defined recycling and reclassification adjustments and further argued that items that are recycled may be more likely to be double counted, first as unrealised gains/losses in OCI and then as realised items in the income statement. This leads to reduced transparency of earnings information.

2.8 Chapter Summary

This chapter reviews prior studies that have progressed our understanding of the notion of earnings quality and presents existing evidence on the relationship between presentation of earnings (i.e., net income, other comprehensive income, accumulated other comprehensive income and earnings quality). The notion of clean surplus book value is used as a baseline for understanding earnings, which is limited, despite many empirical studies documenting the quality of accrual and earnings. To understand and assess the impact of the presentation of earnings on earnings quality with respect to clean surplus principles, different earnings presentation options that are in the literature are reviewed.

Chapter 3: Theoretical Framework

3.1 Introduction

This chapter explains the theoretical framework and hypotheses that are tested in the later chapters of this thesis. Section 3.2 outlines the importance of clean surplus accounting. Section 3.3 reviews the literature on dirty surplus accounting and evaluates the contradictory opinions on the topic. Section 3.4 contains hypothesis development. Sections 3.5 and 3.6 explain the relevant theories and framework of the current study, and Section 3.7 summarises the contents of the chapter.

3.2 Importance of Clean Surplus Accounting

Given the plurality of meaning in earnings quality outlined in the previous chapter, this study draws upon the concept of Hicksian income, which provides the theoretical baseline for the performance of a firm.

Hicksian income corresponds to the amount that can be consumed (that is paid out in dividends) while leaving a firm as well off as at the beginning of a period (Schipper & Vincent, 2003). This study draws upon Ohlson (1995, p. 666) to develop the principles for clean surplus accounting that give a measure for Hicksian income:

$yt = y_{t-1}+d_t-x_t$

Where x_t is earnings for the period (t–1, t), y_t is (net) book value at date t, and d_t is the dividend for the period. The clean surplus model frames the time series behaviour of accounting numbers (Ohlson, 1995). A model for earnings quality is developed in which the clean surplus is the theoretical baseline and reported book value (including dirty surplus) is evaluated in terms of the time series properties (Ohlson, 1995).

Clean surplus is important for several reasons. For example, it is considered the summary performance measure in firm valuation (Bernard, 1995; Dechow et al., 1999; Walker, 1997); it is a foundation of the residual income-based valuation relationship (Linsmeier et al., 1997); it captures 'transparency' and 'visibility' (Johnson et al., 1995; Linsmeier et al., 1997; Johnson & Swieringa, 1996); it provides a fair understanding of the financial strength of a firm (Kanagaretnam et al., 2009); it improves forecasting ability of upcoming earnings and cash flows (Kanagaretnam et al., 2009); it captures all sources of value creation (Biddle & Choi, 2006); it increases the information usefulness regarding income figure (Biddle & Choi, 2006; Veltri & Ferraro, 2018); it provides a more comprehensive theoretical plan for traditional market-based studies (Walker, 1997); it clearly articulates rationally different roles for dividends and earnings (Walker, 1997); and it explains why and how book values might logically enter an accounting-based valuation model (Walker, 1997; Veltri & Ferraro, 2018).

In contrast to clean surplus is the constructed space of dirty surplus accounting. While 'dirty surplus' may be a pejorative label, the literature is divided as to the significance and importance of dirty surplus to earnings quality.

3.3 Contradictory Opinions Regarding Dirty Surplus Accounting Flows

Dirty surplus flows arise when any OCI component is not included in reported earnings and consequently violates clean surplus accounting.

There are contradictory opinions regarding flows of dirty surplus accounting. Researchers support the omission of dirty surplus items from reported earnings for several reasons, including the potentially enhanced quality of reported earnings; improved persistence of reported earnings by excluding noisy items (O'Hanlon & Pope, 1999); enhanced reporting and efficiency and, more specifically, quality of earnings (O'Hanlon & Pope, 1999); improved predictive ability and usefulness of reported earnings by eliminating transitory and non-operating flows (Black, 2016; O'Hanlon & Pope, 1999). However, supporters of clean surplus argue that the omission of flows of relevant dirty surplus items

creates several issues, include a potential reduction in the informativeness and predictive power of accounting earnings (Thinggaard et al., 2006; O'Hanlon & Pope, 1999; Kanagaretnam et al., 2009); an increase in reported earnings (Paton, 1934;Littleton, 1940); a reduction in transparency and visibility (Johnson et al., 1995; Linsmeier et al., 1997; Paton, 1934; Littleton, 1940); an impairment of the quality of earnings, leading to a reduction in the usefulness of income information (Biddle & Choi, 2006); an increase in errors in accounting-based valuation models (Linsmeier et al., 1997); and an increase in cross-country differences in the applicability of such models (Frankel and Lee, 1999).

In summary, clean surplus accounting considers all equity changes resulting from business operation except for transactions with owners. However, dirty surplus flows arise if any OCI component is not included in reported earnings and consequently violates clean surplus accounting. OCI and unusual items can change the net income figure and make this metric difficult to understand and measure; this leads to the possibility that it should not be included in the net income figure. In the next section, a hypothesis is developed based on a critical review of OCI.

3.4 Hypothesis Development

Before the release of SFAS No. 130 (FASB, 1997), companies were required to report three items in the balance sheet as distinct items of shareholders' equity, bypassing the income statement. These OCI items included currency transaction adjustments, additional pension liability adjustments, and unrealised gains and losses on marketable securities. The users of financial statements raised a concern regarding the misuse of financial reporting when these items bypass the income statement (Brauchle & Reither, 1997). They also argued that this format creates a lack of consistency in the presentation of OCI. Consequently, FASB released SFAS No. 130 for the improvement of OCI presentation (FASB, 1997), effective from the financial year starting after 15 December 1997.

Under SFAS No. 130, FASB (1997) allowed entities to show OCI items according to one of three listed options: (1) in a single comprehensive income statement that includes both net income and all other comprehensive statement items; (2) in two separate statements that include a statement of earnings (income statement) and comprehensive income statement; (3) in changes in the shareholders' equity statement (Kim, 2016; Chambers et al., 2007).

Although three options were given for presenting OCI items, FASB encouraged entities to present their OCI items using either the first or second options. FASB (1997) believed that the purpose of transparent reporting and a high quality of financial statements could be achieved by reporting OCI items in one of these two options (FASB, 1997).

Despite this FASB encouragement, most entities started reporting OCI using the third option: in the statement of change in shareholders' equity (Bamber et al., 2010; Bhamornsiri & Wiggins, 2001; Chambers et al., 2007; Jordan & Clark, 2014; Pandit & Phillips, 2004).

Researchers argued that reporting of OCI items in shareholders' equity created several issues, include potentially reducing the informativeness and predictive power of accounting earnings (Barker, 2004); decreasing transparency and visibility (Linsmeier et al., 1997); impairing the quality of earnings and decreasing the usefulness of earnings information (Biddle & Choi, 2006); increasing errors in accounting-based valuation models (Isidro et al., 2004; Isidro et al., 2006); and increasing the cross-country differences in the applicability of such models (Frankel and Lee, 1999).

FASB released ASU 2011-05 in June 2011 after considering the concerns raised by several stakeholders (Kim, 2016). After this update, entities were no longer permitted to show their OCI items in the shareholders' equity statement. Entities could report their OCI items in either a single statement or in two distinct statements, comprising an income statement and comprehensive income statement (Kim, 2016; Eaton et al., 2013).

FASB also added a disclosure requirement, whereby entities were required to display reclassification adjustments from comprehensive income to net income on the face of the financial reports (Henry, 2011; Eaton et al., 2013).

Proponents believe that FASB update 2011-05 (FASB, 2011) improved presentation of OCI items by excluding the third option and that reclassification adjustments make clear to financial statement users that certain items are already included in a previous period's comprehensive income (Henry, 2011; Casabona & Coville, 2014). Researchers argued that FASB update 2011-05 enhanced the transparency in disclosing CI and changes in OCI and increased the importance of OCI items (Schaberl & Victoravich, 2015).

However, researchers raised various other standard-setting issues regarding the current reporting requirements of comprehensive income, the most prominent of which may be the issue of defining which income items are included in earnings and which are included in OCI (Black, 2016; Nishikawa et al., 2016; Rees & Shane, 2012; Linsmeier et al., 1997). Standard setters have been unsuccessful at mitigating the use of OCI and recycling in the current conceptual framework, which affects the consistency, transparency and quality of earnings (Nishikawa et al., 2016). This FASB update only affected the reporting location of OCI (Rees & Shane, 2012; Schaberl & Victoravich, 2015; Eaton et al., 2013; Jordan & Clark, 2014; Lin et al., 2017); the single continuous statement permitted in FASB 2011-05 may create confusion among financial statement users (Kim, 2016; Streaser et al., 2014).

Stakeholders also raised many additional concerns about the requirement for presentation of reclassification adjustments out of accumulated OCI at the time of implementation of update 2011-05 (FASB, 2011) and argued that earnings quality has not met the objectives of the update. The relevant Broad Consideration (BC) released in ASU, 2011–12 are outlined below.

BC 11: Stakeholders raised concerns that the information required for separating presentation of reclassification adjustments in the statement of net income may

not be available in a timely manner, particularly because of the no specified effective date of update 2011-05. They further argued that providing additional information to demonstrate that the statement where net income is presented could become overly cluttered with detail if the reclassification adjustments must be presented within each component of net income for each corresponding component of other comprehensive income, thereby obscuring totals. The guidance is not clear as to the level of detail required for interim financial statements because an interim statement is permitted to be presented in a condensed format, and there are concerns as to the usefulness of detailed reclassification information presented in a condensed income statement, and certain reclassifications out of accumulated other comprehensive income may initially be reported in a balance sheet account and subsequently reclassified to net income at a later date (ASU, 2011–12 pp. 13–14).

BC 16: Many stakeholders raised concern about the deferral of the reclassification adjustment required in update 2011-05. This user's group is generally opposed to the use of other comprehensive income and the need for recycling an amount out of other comprehensive income through earnings. They argued that it is important to identify when items of net income have been reclassified out of accumulated other comprehensive income to avoid double counting those items in net income for both interim and annual financial statements. This user group said information about how reclassification adjustments affect net income is necessary to properly understand financial performance, and that permitting reclassification adjustments to be presented in the footnotes may obscure information and result in a lack of transparency (ASU 2011–12 p. 16).

Eaton et al. (2013) argued that presentation format should not matter if the market is efficient and investors are rational. He further argued that public information shown in any format is entirely incorporated into a company's stock price in an efficient market.

As a result of conflicting arguments on update 2011-05, FASB made another attempt to improve OCI presentation and issued ASU 2013-02 in February 2013 (FASB, 2013).

ASU 2013-02 aimed to enhance the transparency of OCI changes and reclassified the adjustment of OCI components. The position of FASB from 2011 takes the literature on Comprehensive Income back to firm performance with comments from them on broad considerations, expects that earnings quality has improved. This leads to the hypothesis that earnings quality improved after 2011 as a direct result of the assertions by FASB. This hypothesis is tested by looking at Compustat firms as a whole and at individual industries.

H_1*:* Earnings quality with respect to clean surplus principles improved after 2011.

Theoretical book value (clean surplus) is used as a baseline for firm performance. According to FASB update 2011-05, entities are no longer allowed to show items of other comprehensive income in the statement of change in shareholders' equity. The main purpose of FASB in asking for this disclosure in one of two forms is that, without it, financial statement users may not consider that few net income items were present in a prior period of comprehensive income (Nishikawa et al.,2016).

While there are some minor exceptions to the 'recycling' of profits and losses through earnings, if the principles embodied in accounting standards were followed in published financial statements, this would imply that reported earnings would obey clean surplus principles in the long term.

The theory underlying these measures of closeness is explained in the next section.

3.5 Relevant Theory

Most hypotheses and theory about earnings quality can be traced to accrual mispricing and error estimation (Dechow et al., 2010; Beneish & Vargus, 2002).

The work of Feltham and Ohlson (1995) has become the standard theoretical benchmark for specifying models that relate a firm's reported book value to clean surplus book value (Walker, 1997). Under the clean surplus approach, reported book value is supposed to be equal or similar to book value expected from the income statement over time.

The theory underlying this thesis is based upon definitions of the accounting concepts of the book value of net assets ('book value'), earnings and OCI, and the relationships between these accounting variables over time, assuming clean surplus principles hold.

The extent to which OCI does not average out to zero over time leads to long-run differences between reported book value the book value that would result had earnings been reported under clean surplus principles. I refer to this hypothetical measure of book value as 'clean surplus book value'.

The definition of clean surplus book value at time t is:

Clean Surplus Book Value (B_t^c)	$B_0 + \sum_{k=0}^{k=t} [E + D + P + T]_k$	(1)
B_0	The reported book value of net assets at time zero	
E	Earnings per accounting period	
D	Common dividends per accounting period	
P	Preference dividends per accounting period	
T	Transactions with owners per accounting period	
k	Number of accounting periods over which variables are measured	

Any of the variables in (1) may be negative and both *D* and *P* invariably are.

Reported Book Value at time *t*, B_t, is related to period opening Book Value, B_{t-1}, the variables in (1) and reported Other Comprehensive Income in period t, by the identity:

Reported Book Value ($\boldsymbol{B_t}$)	$\boldsymbol{B_t = B_{t-1} + E_t + OCI_t + D_t + P_t + T_t}$	**(2)**
$\boldsymbol{OCI_t}$	Other Comprehensive Income reported in period $\boldsymbol{t}$	

Consequently, differences between B_t and B_t^c are explained by accumulated OCI_t over the k periods with respect to which B_t^c is measured. For later reference, I define Comprehensive Income CI as the sum of E and OCI. Since various items are mandated by accounting standards to be included and shown separately from Earnings, E_t is unlikely to be such that (1) holds in every accounting period. In general, Earnings is usually not clean surplus in the short-run. However, accounting rules for items included in OCI, as required by standards, are such that nearly all items of Other Comprehensive Income must 'reverse' through the profit and loss account over time. In this sense Earnings is clean surplus in the long-run. Therefore, in order to assess earnings quality, we seek a method of assessing the extent to which this principle holds true in the long-run. Thus, concept of the 'quality' of Earnings is founded on the extent to which to the clean surplus relation is followed in the calculation of Earnings in the long-run. If Earnings is clean surplus in the long-run, the Book Value is also clean surplus in the long run. I can see from (1) and (2) that:

	$\boldsymbol{B_t^C = B_t + \sum_{k=0}^{k=t} OCI_k}$	(3)

Therefore B_t and B_t^C are expected to be equal in the long-run, if $\sum_{k=0}^{k=t} OCI_k \to 0 \; as \; t \; increases$. Standards refer to 'accumulated other income' $AOCI$. For convenience, I set

$AOCI_t = \sum_{k=0}^{k=t} OCI_k.$	(4)

The ratio of reported book value to clean surplus book value (5) is computed to assess a firm's earnings quality with respect to clean surplus accounting. The closer this ratio is to 1, the higher the earnings quality. It shows falling earnings

quality if the two lines of book value separate, in which case this ratio would be low.

$\frac{B_t}{B_t^c}$	(5)

3.6 Framework for this Study

Clean surplus earnings are an important contributing factor to the production of high-quality financial statements. This study is divided into two parts. The first part characterises the time series patterns in the accounting variables of interest. The evolution of clean surplus book value, earnings and OCI over time are examined. The second part uses these results to identify unusual firm characteristics, since it is possible to identify individual firms from the entire sample with this method. It is then used to compare earnings quality with respect to the clean surplus assumption between Compustat firms and between SIC industries, and to assess how quality has changed over time.

3.7 Summary

This chapter briefly reviews the existing literature on clean surplus accounting and dirty surplus accounting and provides a historical review of FASB changes relating to the reporting of other comprehensive income. This chapter also formulates a hypothesis relating to the research question presented in Section 1.2. The theory underlying this chapter is based upon definitions of the accounting concepts of the book value of net assets (‘book value’), earnings and OCI, and the relationships between these accounting variables over time, assuming clean surplus principles hold. Analyses of these variables are conducted by using data from all Compustat firms and major individual SICs later in this thesis. The next chapter describes the method that is used to implement the research framework for this thesis.

Chapter 4: Research Method

4.1 Introduction

This chapter describes the methods used to implement the framework for the research described in the previous chapter. The next section outlines the details of models estimated, including analysis of time series patterns in OCI and identification of unusual firm characteristics. Section 4.3 contains definitions of variables and sources of data. The sample selection criteria for firms in time series analyses are explained in Section 4.4. The contents of the chapter are summarised in Section 4.5.

4.2 Models Estimated

The method of assessing earnings quality with respect to the clean surplus relation has two parts.

4.2.1 Analysis of Time Series Patterns in OCI

The first part of the analysis is informal and is used to characterise the time series patterns in the accounting variables of interest. First, the evolution over time of clean surplus book value, earnings and OCI evolve is considered. The influence of the accounting treatments mandated by standards on the observed patterns is analysed. It is expected that OCI should appear as a stationary time series around zero and that AOCI should behave as a time series, integrated of order 1 (I (1)), and returning to zero after some finite time interval. If this is not observed, it means that OCI gains and losses are not realised or recycled over time, which causes reported book value to diverge from clean surplus book value. It is expected that a negative increase in AOCI will indicate that the net book value of a firm's assets is reported as lower than the net asset values, which would be expected from earnings reported in the income statement, that is, assuming clean surplus principles in accounting measurement. This would mean that the reporting of a firm's performance is overstated.

From the definition of clean surplus book value, BtC, it should remain close to reported book value, Bt. The ratio of reported book value to clean surplus is also calculated, to examine earnings quality with respect to clean surplus principles. The ratio would be 1 or close to 1 if reported book value is close to clean surplus book value as per the expectation; consequently, the value of the ratio is expected to be 1 or close to 1. The closer the ratio is to 1, the higher a firm's earnings quality in this respect. The observed patterns of OCI exhibited by firms and the elements reported in their financial statements are examined to illustrate the underlying causes of the behaviour of OCI.

4.2.2 Identifying Unusual Firm Characteristics

In the second part of the analysis, the results from Section 4.2.1 are used to identify unusual firm characteristics, because individual firms can be identified from the entire sample with this method. Again, sequence plots of the reported book value of net assets and a calculated 'clean surplus book value' variable of individual firms are provided. 'Clean surplus book value' is the equivalent of the net book value of assets if all items included in OCI were to be included in earnings in the income statement. Based on similar reasoning to that above for AOCI, a tendency for a firm's reported book value to depart from clean surplus book value may indicate poor earnings quality.

To determine whether firms are 'unusual' (i.e., display unusual OCI and book value patterns), their sequence plots of OCI, reported book value and clean surplus book value are compared to the means for the entire sample, major industries and individual firms. If OCI is usually reported negatively and reported book value deviates from clean surplus book value, these patterns are classed as unusual. In the case of the large data sample, the analysis is executed for the different major SIC classifications (see Table 4.4.1) and for the entire sample.

4.2.3 Accounts Responsible for Differences Between Reported Earnings and Clean Surplus Earnings

The method described above enables identification of how individual firms contribute to the aggregate patterns exhibited by the data. By identifying patterns at the level of the individual firm, it is possible to systematically examine the accounts that are responsible for creating differences between reported book value and that expected if clean surplus principles were followed. As it is impractical to examine sequence plots for the entire Compustat database (by firms), this approach is adopted for the entire Compustat database and individual industries (by years). This enables a qualitative assessment of whether there is poor earnings quality and what the cause may be.

4.2.4 Transforming Data

The data for reported book value and clean surplus book value is transformed into logs of absolute value before using in graphs. The main rationale for using log transformation of raw data is to methodically decrease variance in the absolute value of book values (Camisón-Zornoza et al., 2004; Damanpour, 1992; Kimberly & Evanisko, 1981). The other rationale for using log transformation is contingent upon the nature of the hypothesised relationship between the variables (Kimberly & Evanisko, 1981)

4.3 Definition of Variables and Source of Data

This subsection describes the variables used in the econometric models.

4.3.1 Earnings (E)

Earnings is Compustat net income (NI), a firm's profit disclosed in its income statement and not included in other comprehensive income.

4.3.2 Other Comprehensive Income (O)

This is defined by the FASB and other standards, and usually consists of foreign exchange differences arising from translating functional currencies to presentation currencies FASB Statement No. 52, Foreign Currency Translation paragraph 13 (FASB, 1981b); FASB Statement No. 115, fair value adjustments, paragraph 16

(FASB, 2006); and FASB Statement No. 87, Employers' Accounting for Pensions, paragraph 37 (FASB, 1985b).

4.3.3 Accumulated Other Comprehensive income (AOCI)

Accumulated other comprehensive income (AOCI) is the cumulative amount of OCI components, reported in each period's statement of comprehensive income.

4.3.4 Reported Book Value (B)

Book value is defined as the reported book value of net assets. This is defined in the Compustat annual data field B and measured at the end of the relevant period.

4.3.5 Clean Surplus Book value (B^c)

Clean surplus book value is the value that the net book value of assets would be if all items included in other comprehensive income were included in earnings in the income statement. It is calculated by excluding business transactions with owners (such as share repurchase, share offerings and dividends) while calculating returns.

4.3.6 Ratio of Reported Book Value to Clean Surplus Book Value

This ratio is calculated by dividing reported book value by the clean surplus book value.

4.3.7 Data

US Compustat firm data over the period 1995–2014 (20 years) are used for estimation of variables. The data used in models are transformed to natural logs of absolute values (Lubberink & Willett, 2017). Data fields used for each model variable are either as defined by Compustat or as defined in Table 4.3.1.

Table 4.3.1: Data definitions

Data	Source
Earnings (NI), dividends (DVC), preference Dividends (DVP), book value, B_t, (CEQ), retained earnings (RE)	As defined by Compustat annual data item numbers A172, A21 A60, and A36 respectively. Sources: Compustat tapes 1995–2014.
Other comprehensive income	$\Delta RE - (NI - DVC - DVP)$
Clean surplus book value	$CEQ + \sum_{0}^{t} [\Delta RE - (NI - DVC - DVP)]_t$

4.4 Sample Selection Criteria for Firms and Sources of Data

The sampling framework for the data consists of all firms that are active at 31 December and listed on the US stock exchange, and each major SIC for the period 1995–2014. The specific criteria for selection of time series data are as follows:

4.4.1 All Compustat Firms:

To be included in the sample, firm-years must have no missing data for all model variables for the period 1995–2014.

4.4.2 Ten major SICs:

These are selected based on Standard Industrial Classification (SIC) categories, as shown in Table 4.4.1. Visual inspection is undertaken of sequence plots of clean surplus book value, reported book value, earnings and OCI, as shown in Section 5.3.

Table 4.4.1: SIC classification

Range of SIC code	Sector
0100-0999	Agriculture, Forestry, And Fishing
1000-1499	Mining
1500-1799	Construction
2000-3999	Manufacturing
4000-4999	Transportation, Communications, Electric, Gas and Sanitary Services
5000-5199	Wholesale Trade
5200-5999	Retail Trade
6000-6799	Finance, Insurance and Real Estate
7000-8999	Services
9100-9729	Public Administration

4.4.3 Selection of Individual case studies

The individual firms that are used to examine firm characteristics are illustrated in table 4.4.2.

Table 4.4. 2: List of individual firms analysed

Firm Name	SIC Code	Source
Conoco Philips	1311	https://siccode.com/business/conocophillips
Duke Energy Corp	4911	https://siccode.com/business/duke-energy-corp
Motorola Solutions	5045	https://siccode.com/business/motorola-solutions-inc
Archer Daniels Midland Co	5191	https://siccode.com/business/archer-daniels-midland-co-1
Home Depot	5211	https://siccode.com/business/home-depot-8
Moody's Corp	6282	https://siccode.com/business/moodys-corp
Crawford & Company	6411	https://siccode.com/business/crawford-and-company
Tejon Ranch	6519	https://siccode.com/business/tejon-ranch-co
Berkshire Hathaway Inc.	6719	https://siccode.com/business/berkshire-hathaway-inc
LabCorp	8731	https://siccode.com/business/labcorp-95

The individual companies were chosen based on the following three criteria:

1. Firms reporting largest losses in OCI and not reversing regularly (which leads to the divergence of reported book value from clean surplus book value) were included in the sample. These indicate that the net book value of these firms' assets is lower than the net asset value that would be expected from earnings reported in the income statement.

The impact of this is that reported earnings of these firms generally provide on over-optimistic picture of book value. This has the implication that the failure of income reported in comprehensive income will hide the impact of losses on market (ConocoPhillips, Duke Energy, Motorola, Moody's Corp and LabCorp).

2. Firms having unusual OCI characteristics which include the movement of the repurchase and retirement of treasury stock through retained earnings were included in the sample. This affects the pattern of OCI as well as leads to the divergence of reported book value from clean surplus book value. (Home Depot, Crawford $ Co and Berkshire Hathaway).

3. Firms reversing/recycling OCI items regularly were included in the sample (Tejon Ranch and Archer Daniels).

The reason of using the above criteria for the selection of case study firms is mainly based upon different reporting characteristics of the OCI which affect the quality of earnings. While investigating numerous case study firms, I identified three different OCI characteristics which effects the divergence of reported book value from clean surplus book value. I have named (1, 2) *unusual OCI characteristics and (3) usual OCI characteristics/FASB expectations.* Most of the investigated firms report their OCI items as per FASB expectations (3). I have included the firms that satisfy the above criteria as the chosen case study firms in the analysis chapter as the best firms that represent the above OCI characteristics.

4.5 Chapter Summary

This chapter has explained the methodology for this research, which is in two parts. In the first part, the evolution over time of the clean surplus book value, earnings and OCI of Compustat firms and major individual industries is examined. The ratio of reported book value to clean surplus book value is used to examine how far book value is reported compared to clean surplus book value. The expected value of the ratio is 1, and earnings quality is considered higher if the value is near to 1.

In the second part, unusual firm characteristics are identified. For this purpose, individual firms are selected based on three criteria explained above. Sequence plots of the reported book value of net assets and a calculated ‘clean surplus value’ for individual firms are provided. By identifying patterns at the level of the individual firm, the accounts that are responsible for creating a difference between reported book value and clean surplus book value are also examined.

The methods use archival data. Data from Compustat firms and patterns of estimates are also examined with SIC divisions to assess any industry differences in the data. Statistical analyses are undertaken using with SPSS.

Chapter 5: Results

5.1 Introduction

This chapter provides the results from applying the methods described in Chapter 4. Section 5.2 provides a summary of the descriptive statistics of all variables used in this study. Section 5.3 illustrates the behaviour of other comprehensive income, including Compustat firms as a whole and all main individual SICs. The chapter is summarised in Section 5.4.

All financial information is in United States dollars.

5.2 Descriptive Statistics

Table 5.2.1 shows summary statistics for the pooled averages of reported book value, clean surplus book value, earnings and other comprehensive income data for all Compustat US firms that are active at 31 December year-end in the period 1995–2014, inclusive.

Table 5.2.1: Summary data on reported book value, clean surplus book value, earnings and other comprehensive income

Firm sample: All active 31 December year-end Compustat firms 1995 – 2014

Pooled Data	N	Mean	Std. Dev.	Skewness	Kurtosis	Std. Error
Reported Book Value	124,619	1492.43	7625.47	13.76	260.88	0.014
Clean Surplus Book Value	113,016	1740.18	8908.01	14.66	316.29	0.015
Earnings	124,586	162.73	1335.52	0.25	1051.88	0.014
OCI	113,112	-35.38	1042.88	2.53	8154.98	0.015

The firms exhibit a clean surplus book value that is larger in aggregate than reported book value, reflecting the fact that the accumulated amount of OCI is noticeably negative. The absolute value of OCI is 21% of that of earnings.

5.3 Behaviour of OCI by Major SIC Classification

5.3.1 All Sectors

Figure 5.3.1 shows the earnings of Compustat firms over the period 1995–2014. There is a general increase in earnings over time. Earnings dip noticeably in 2008 but are otherwise strongly positive.

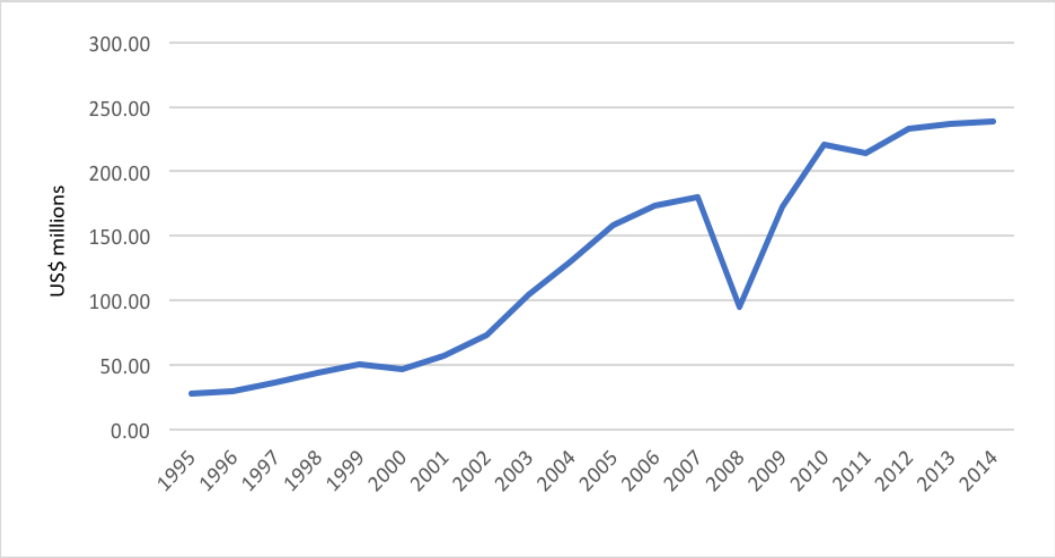
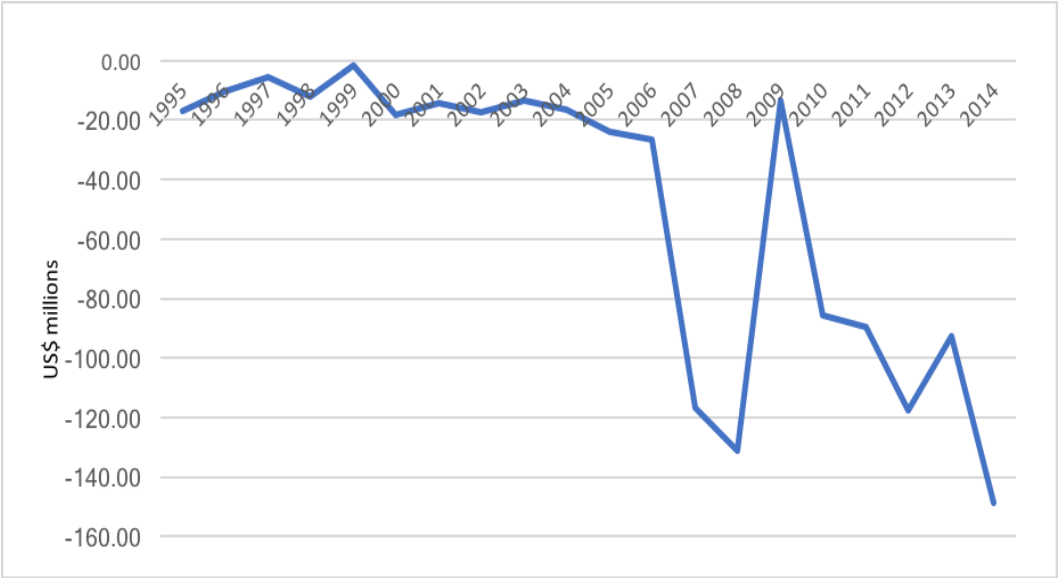


Figure 5.3.1: All Compustat Firms- Earnings

Figure 5.3.1 shows that the earnings of Compustat firms were noticeably affected during the Global Financial Crisis (GFC): the earnings dropped by up to US$0.095 billion in 2008. The Compustat firms' earnings increased from US$27 million to US$238 million during the study period.

Figure 5.3.2 shows the behaviour of OCI (Panel A) and AOCI (Panel B) for all the firms over the study period. AOCI becomes increasingly negative over time. The very strong increasingly negative trends observable in Panels A and B are a function of the exponential nature of the growth in losses.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

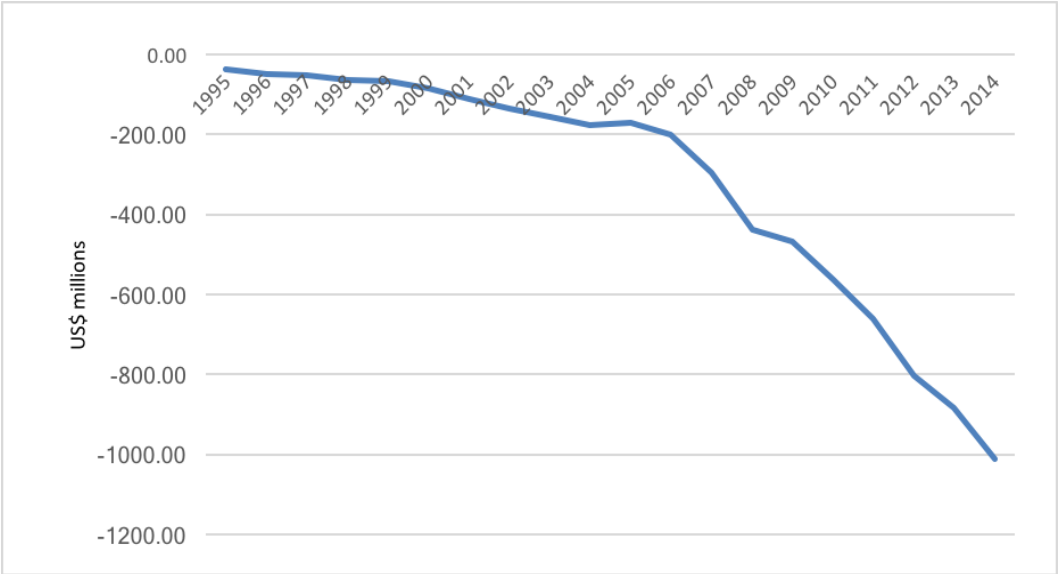
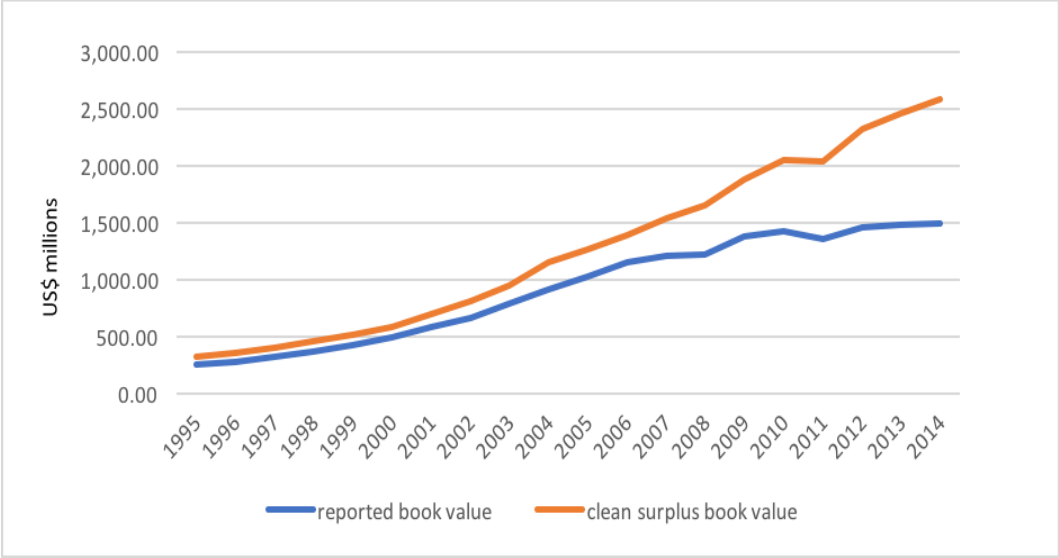


Figure 5.3.2: All Compustat Firms Other Comprehensive Income and Accumulated Other Comprehensive Income

OCI, as calculated using the formula in Table 4.3.1, is usually negative and volatile after 2000, although it shows a lower negative value in 2003 and 2009, at one-year lags following two major financial crises. The difference between reported book value and calculated clean surplus book value (see Figure 5.3.3) increased over time with the exponential growth of losses in OCI.

Unlogged data



Logged data

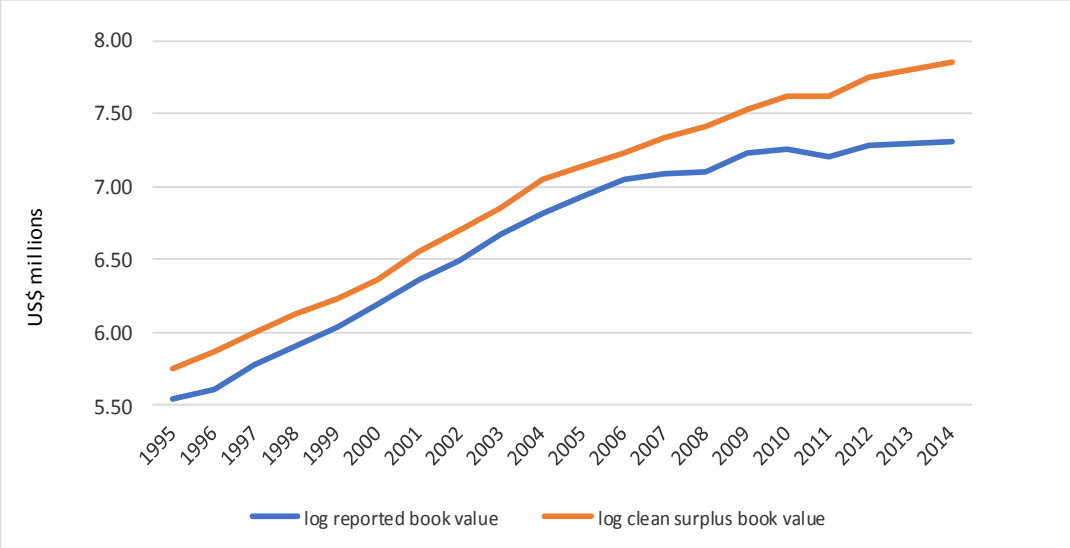


Figure 5.3.3: All Compustat Firms- Comparison of reported and clean surplus book value

The average difference between reported book value and clean book value between 2011 and 2014 was US$0.91 billion, substantially higher than for the entire study period (US$0.36 billion).

Figure 5.3.4 shows the ratio of the reported book value to clean surplus book value. The reported book value diverged from clean surplus book value, particularly after 2011. This means that reported book value is noticeably lower than clean surplus book value during the recent period.

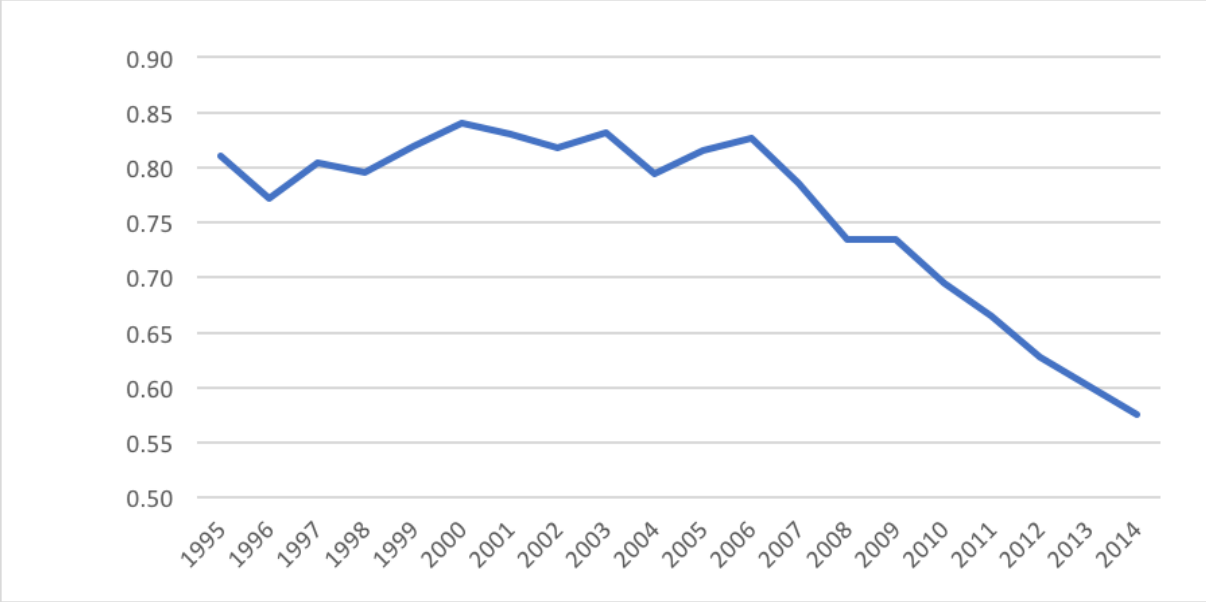


Figure 5.3.4: All Compustat Firms- Ratio of reported book value to clean surplus book value

The ratio declined from 0.80 to 0.58 in 2014. The earnings quality of Compustat firms is lower in recent years.

To further investigate the causes of these observed patterns, a higher level of resolution is required. In the following sections, the behaviour of the relationship between reported book value and calculated clean surplus book value is examined at the level of the main SIC industry classifications, to assess whether the structural economic differences between these industry groupings and individual case studies provide evidence of the origins of the patterns in the reporting of OCI. This is assessed by inspecting sequence plots that parallel those shown in Panels A and B in Figure 5.3.3, to illustrate the behaviour of the unlogged and logged data for each of the ten major SIC industrial classifications.

5.3.2 Agriculture, Forestry, and Fishing

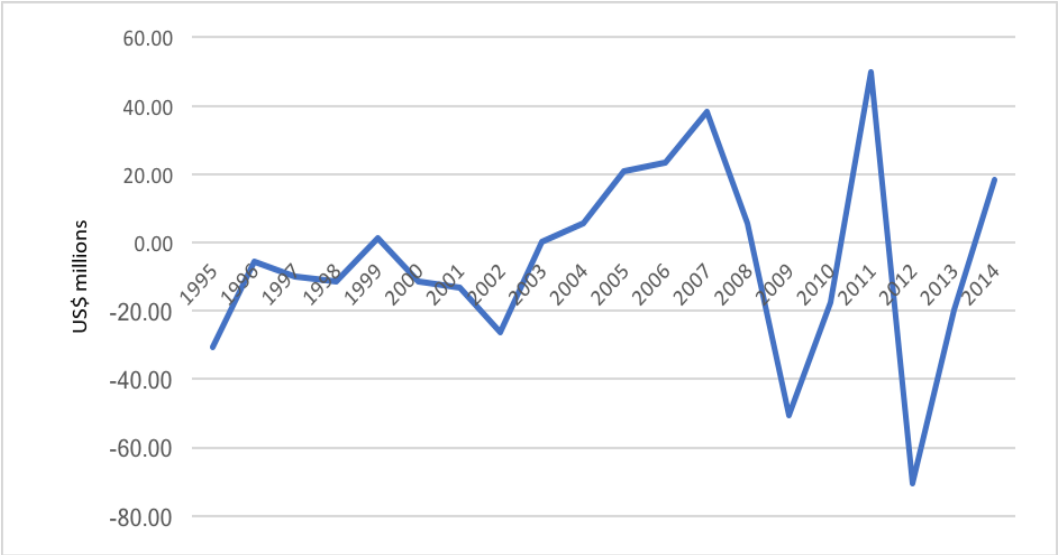
Figure 5.3.5 displays the earnings behaviour of firms listed in the Agriculture, Forestry and Fishing sector over the period from 1995-2014.

Figure 5.3.5: Agriculture, Forestry, and Fishing firms – Earnings

The earnings pattern showed a generally positive trend over time, although there was a noticeable dip to negative values in 2002 and 2003. Earnings in this industry appear to have been less affected by the GFC than all sectors (see Figure 5.3.1). Earnings remained highly positive since then.

Figure 5.3.6 shows the two sequence plots for the Agriculture, Forestry and Fishing firms, showing that calculated OCI is generally negative. In some years, the OCI and AOCI are positive and different from all Compustat firms (Figure 5.3.2), so that the long-term OCI trend is not always negative (see Panels A and B, Figure 5.3.6). The calculation of OCI in this industry shows a pattern of increased volatility in the most recent years. OCI and earnings were negative in 2002; however, this industry appears to have been less affected by the GFC than most firms.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

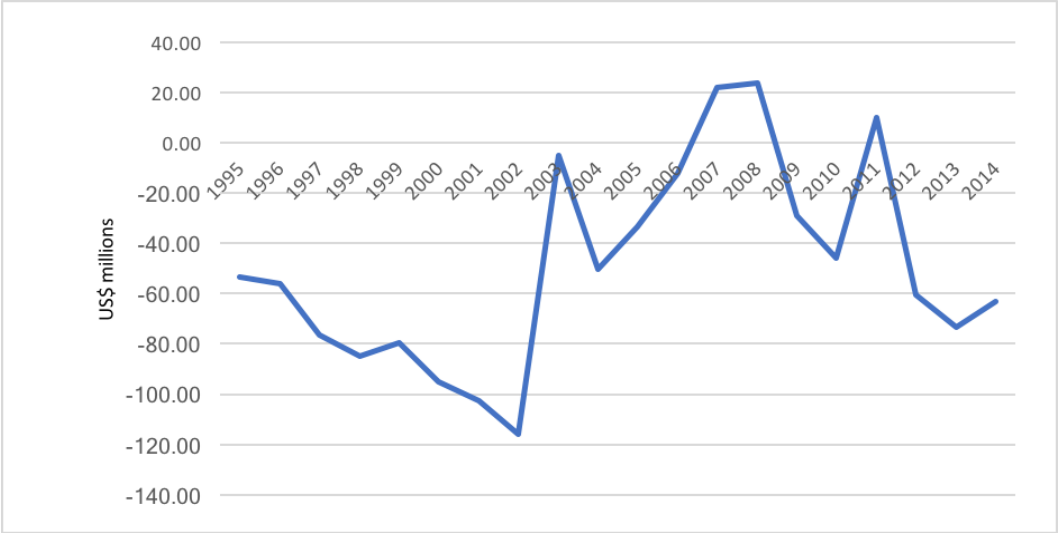
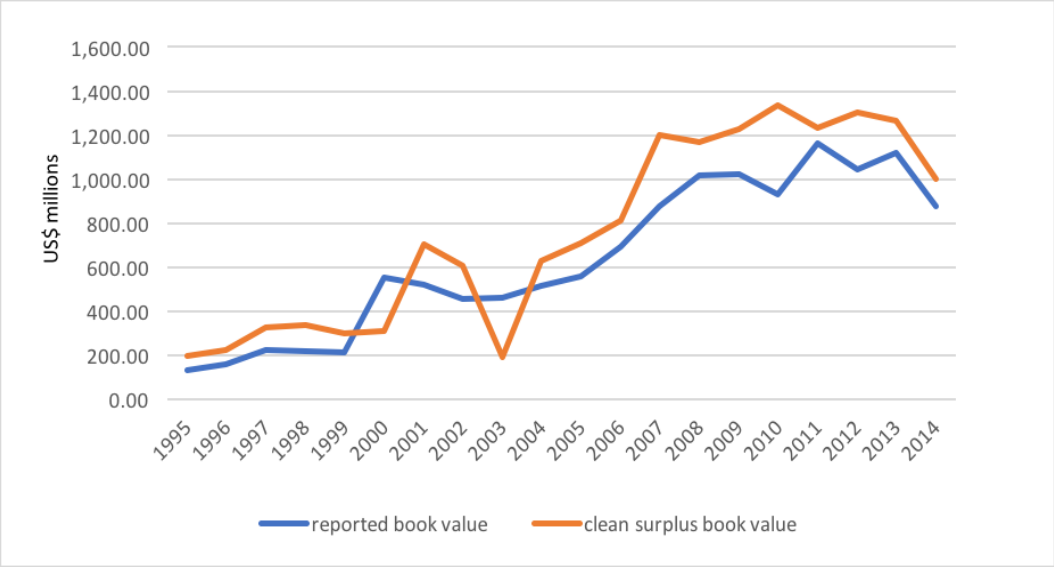


Figure 5.3.6: Agriculture, Forestry, and Fishing firms – Other Comprehensive Income and Accumulated Other Comprehensive Income (AOCI)

Earnings and OCI were both positive in 2007, 2008 and 2011 (see Figure 5.3.6). When compared with the overall sample of firms, GFC-related losses seem to have been recognised a year later, in 2009, and rebounded strongly in 2011. Negative reporting of OCI led to the clean surplus book value being higher than the reported book value (see Panel A, Figure 5.3.7).

Unlogged data



Logged data

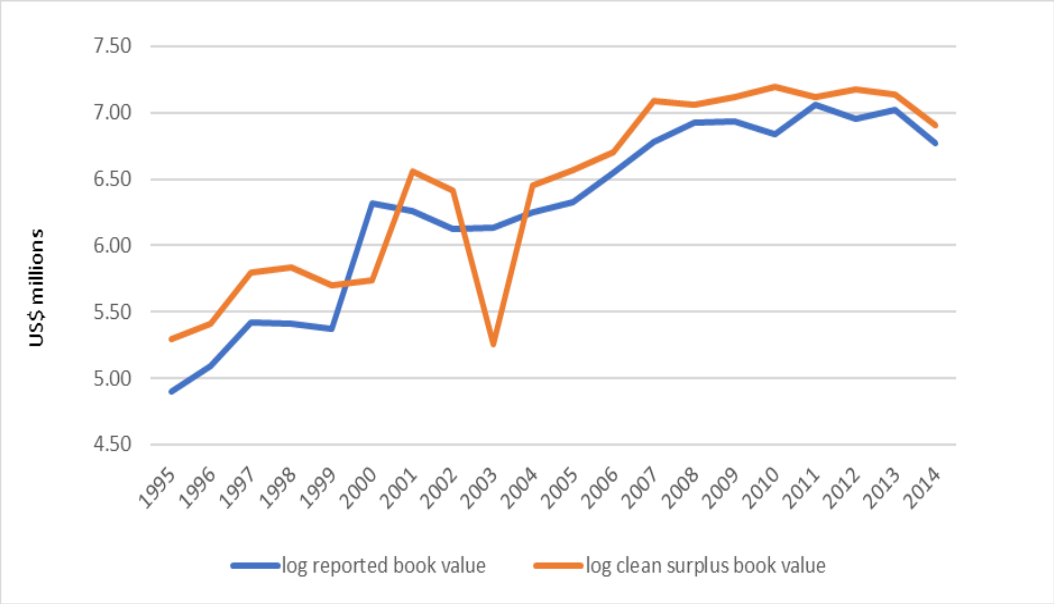
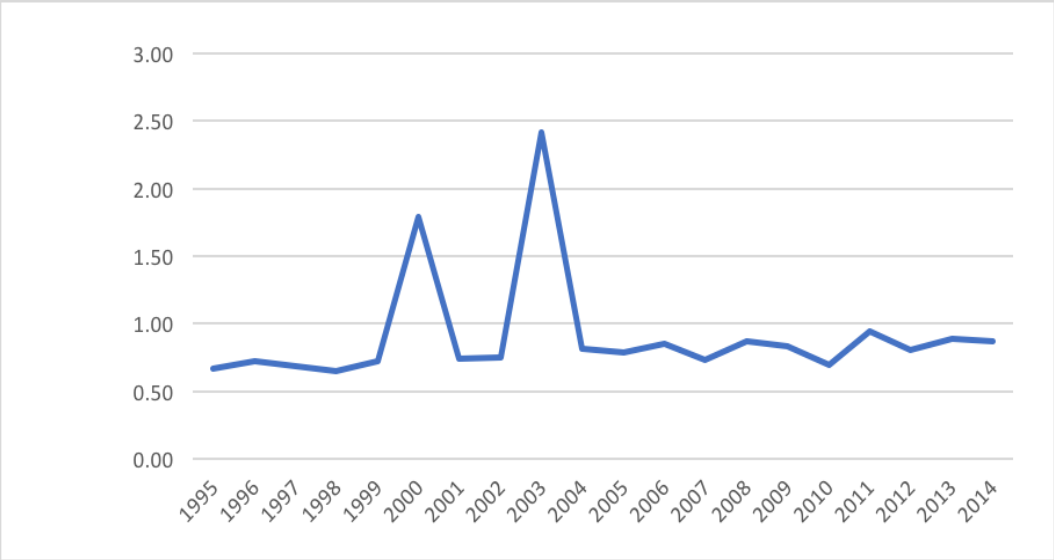


Figure 5.3.7: Agriculture, Forestry, and Fishing firms – Comparison of the reported and clean surplus book value

However, this is less pronounced than in the pattern for the whole dataset (see Panel A, Figure 5.3.3). Book value is reported noticeably lower than clean surplus book value from 2008 onwards. However, in some years (e.g., 2000 and 2003), reported book value is higher than clean surplus book value. For instance, the clean surplus book value for 2002 and 2003 is about US$200 million, which is 50 percent of the reported book value; there is a noticeable change in the pattern of AOCI (see Panel B, Figure 5.3.6) and it is approaching the expected value of 0 in this period.

Figure 5.3.8 displays the ratio of the average of reported book value and clean surplus of firms in the agriculture, forestry and fishing sector. Over the entire period, the average ratio of reported book value was negative and 91%, but from 2011 to 2014 it fell to 88%. The standard deviation, as a measure of the volatility of the ratio, was also less (5% compared to 42%).

Figure 5.3.8: Agriculture, Forestry, and Fishing firms– Ratio of reported book value to clean surplus book value



The average ratio of reported book value remained slightly below the expected value of 1 during most of the study period. However, this ratio was well above the expected value of 1 in 2000 and again in 2003, which indicates that book value is reported higher than clean surplus book value in these years.

5.3.3 Mining

Figure 5.3.9 shows the sequence plot of earnings of mining firms over the period 1995–2014. Earnings of mining firms generally increased over the period. However, there are noticeable adjustments reported during two financial crises (i.e., 2001–2002 and 2008–2009). The earnings dropped from US$91.63 million to US$23.92 million in 2002 and from US$210.48 million to US$112.30 million in 2008.

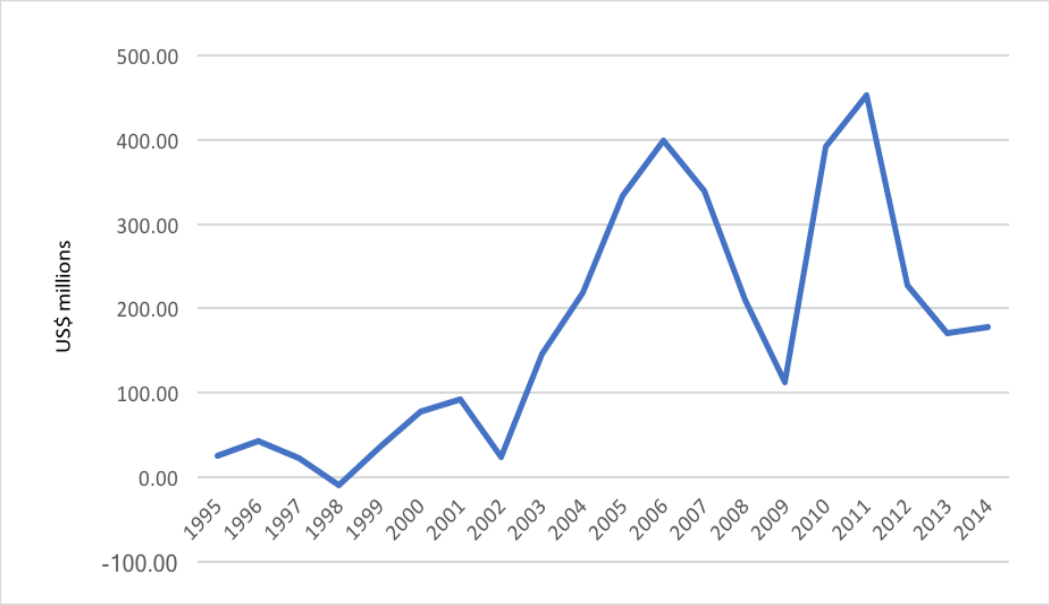
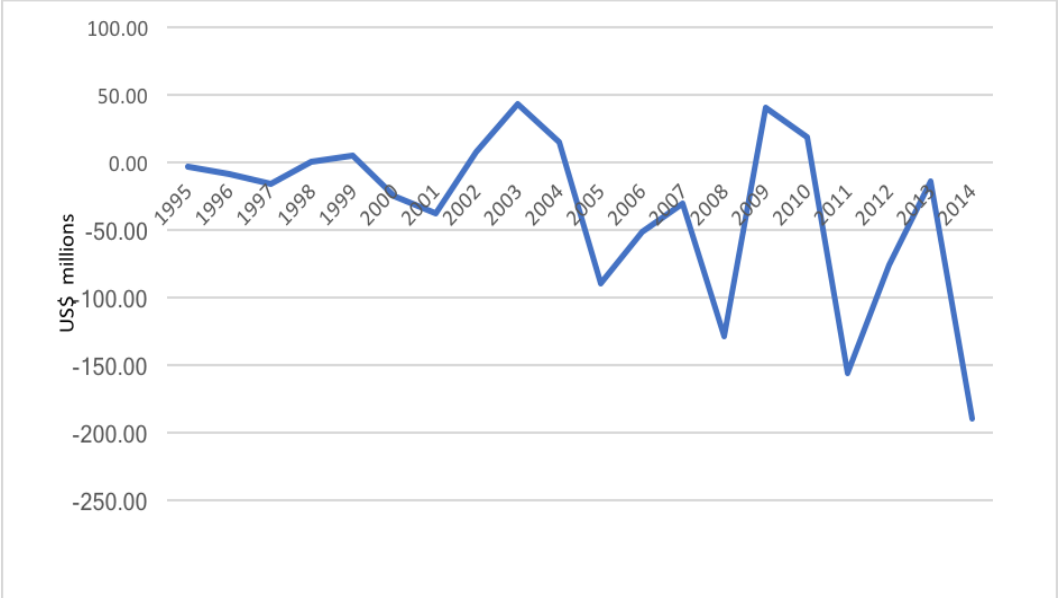


Figure 5.3.9: Mining firms – Earnings

The apparent precipitous increase in negative accumulated income is due to the exponential nature of its growth. The accumulated losses in OCI and the yearly OCI (shown in Figure 5.3.10) display similar percentage change to reported book value and earnings (declines of 19 per cent and 17 per cent respectively since 2000). The fluctuations in calculated OCI are noticeable in this industry.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

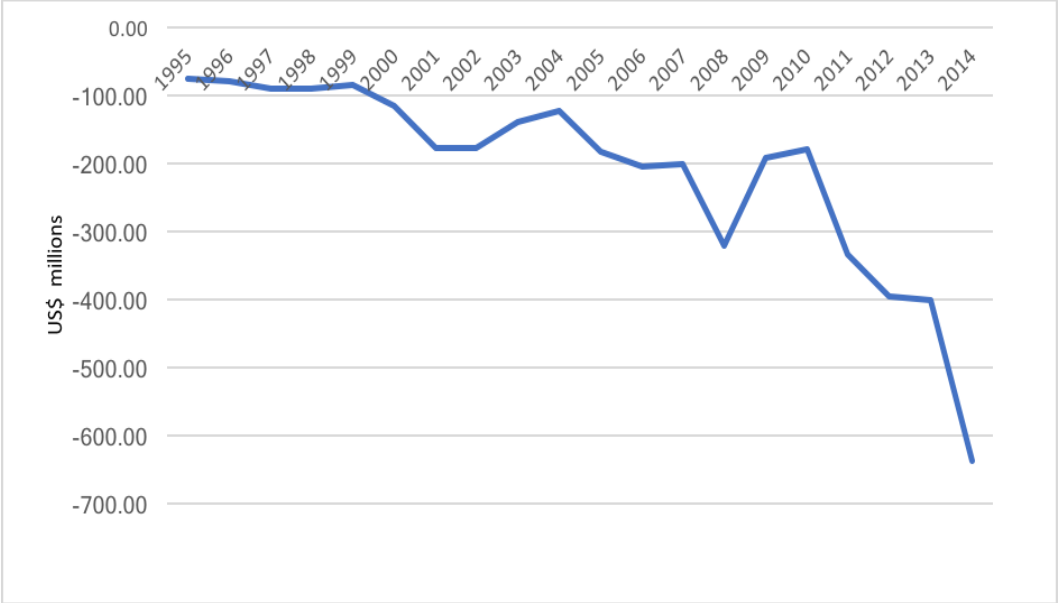


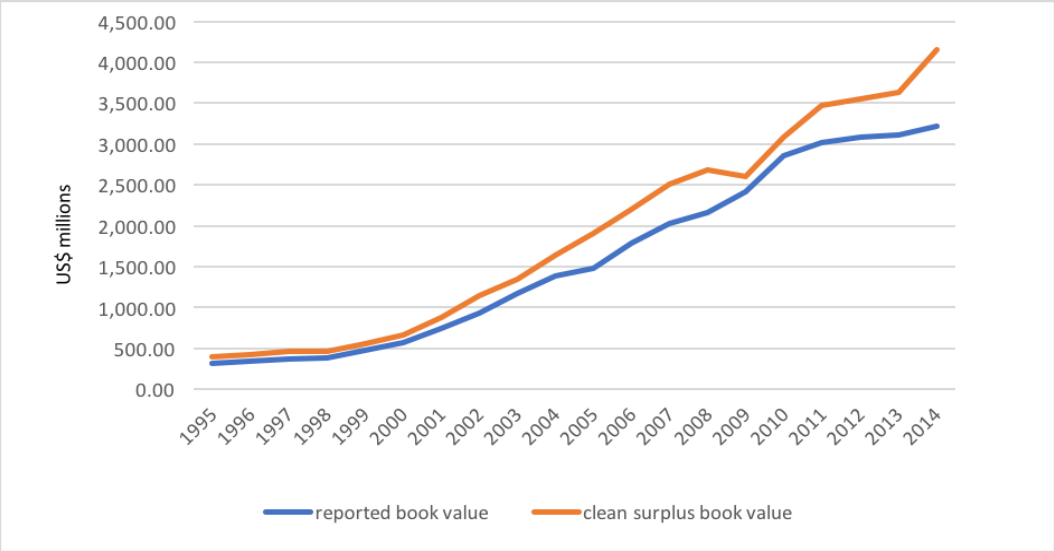
Figure 5.3.10: Mining firms– Other Comprehensive Income and Accumulated Other Comprehensive Income

The years 2000, 2001, 2008 and 2011 show very large negative values, while the years immediately following these (2002, 2003, 2009 and 2012) show positive values. In 2014, the average calculated OCI represented losses greater than earnings. Even in 2012, the recent year that had the smallest losses in OCI and the highest reported earnings, the ratio of the magnitude of OCI to earnings is approximately 25 per cent, substantially higher than for the average of firms in the agriculture sector. OCI was only occasionally positive (in 2004, 2009 and

2010; see Panel A, Figure 5.3.10). The pattern of OCI also shows increased volatility in the most recent years.

The largest negative reporting of OCI after 1999 resulted in a divergence of reported book value from clean surplus book value (shown in Figure 5.3.11). Book value is reported lower than clean surplus throughout the study period. However, there is a noticeable correction in reported book value during the GFC; further, OCI items are reversed and reported positively in this period (see Panel A, Figure 5.3.10).

Unlogged data



Logged data

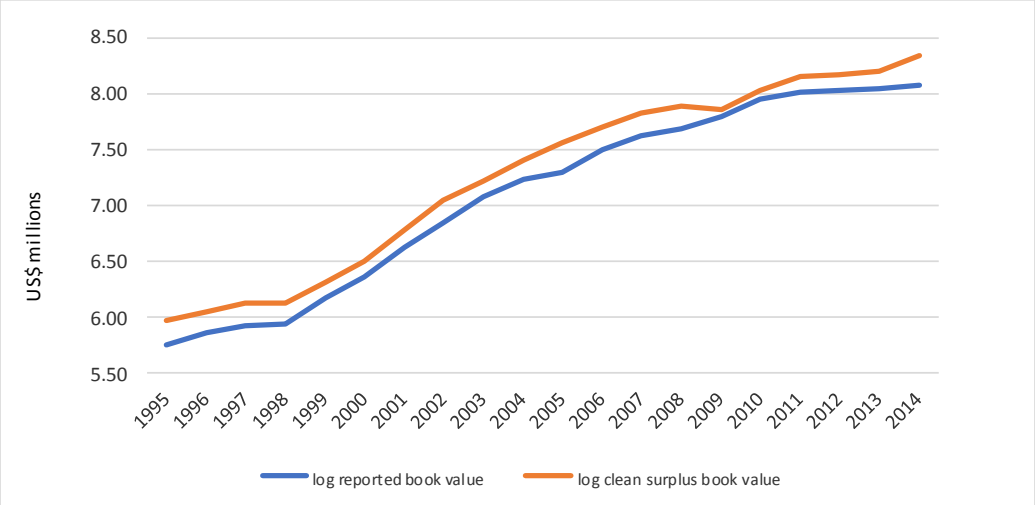


Figure 5.3.11: Mining firms– Comparison of reported book value and clean surplus book value

Figure 5.3.12 shows the average ratio of reported book value to clean surplus book value for the mining firms. The ratio remained lower than the expected value of 1 over the study period. This means that book value is reported as less than clean surplus book value (see Figure 5.3.11). The ratio declined from 90 per cent to 77 per cent in 2014. Earnings quality is judged lower after 2011.

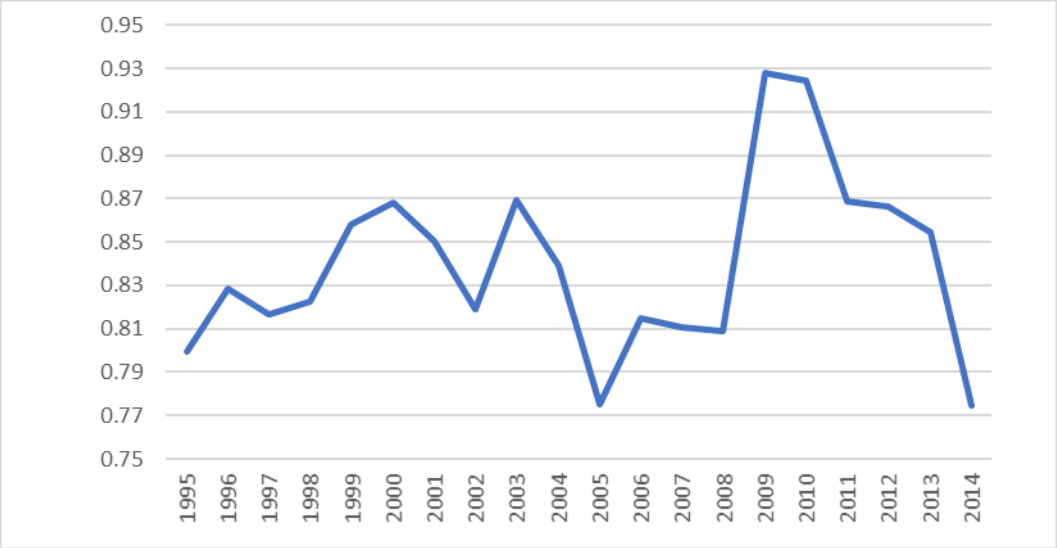


Figure 5.3.12: Mining firms – Ratio of reported book value to clean surplus book value

5.3.4 Construction

Figure 5.3.13 shows the pattern of earnings exhibited by firms in the construction industry. The earnings pattern shows a gradual increase over time and a dip after 2011. The adjustments in earnings during two financial crises are less pronounced in construction than in mining.

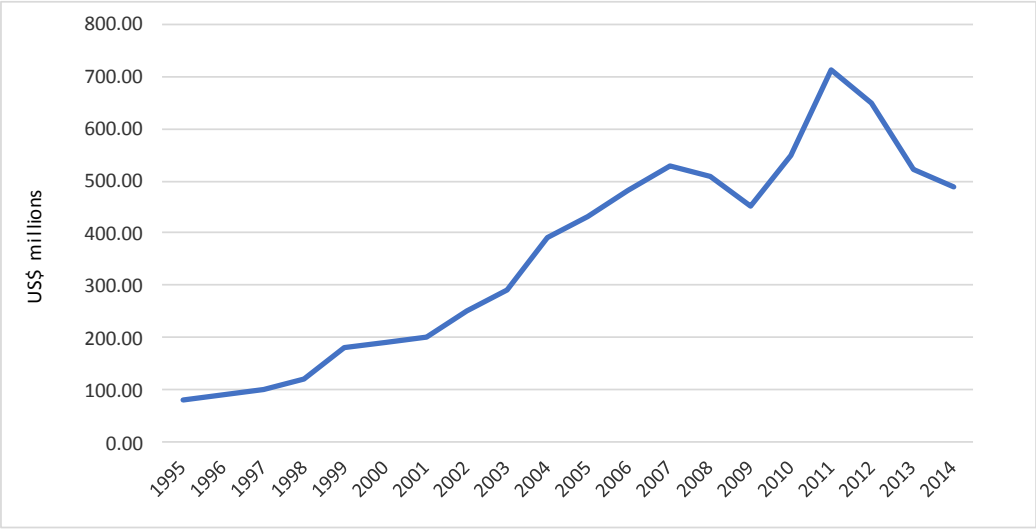
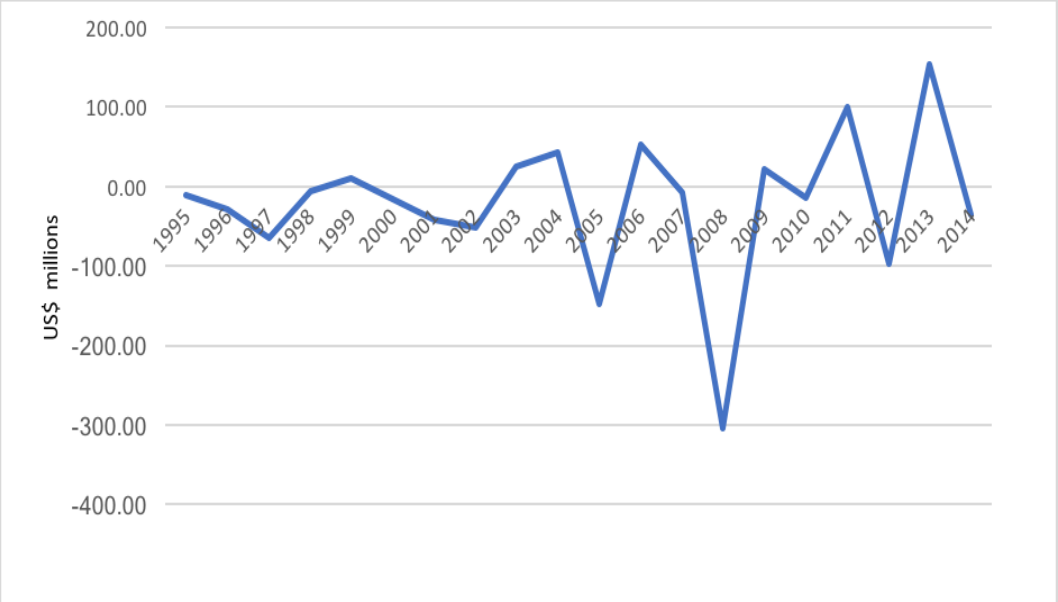


Figure 5.3.13: Construction firms – Earnings

AOCI (see Panel B, Figure 5.3.14) displays a smooth, strong downward trend with minor adjustments during 2003 and 2004 and the GFC. AOCI is negatively reported and was 28 per cent less in 2004 than in the previous year. The largest negative OCI (see Panel A, Figure 5.3.14) is reported in 2007 and 2008 and in the later years of the sample. For instance, the OCI dipped to negative US$300 million in 2008. However, it is unlikely to be less pronounced in the patterns of reported book value and clean surplus book value (as shown in Figure 5.3.15).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

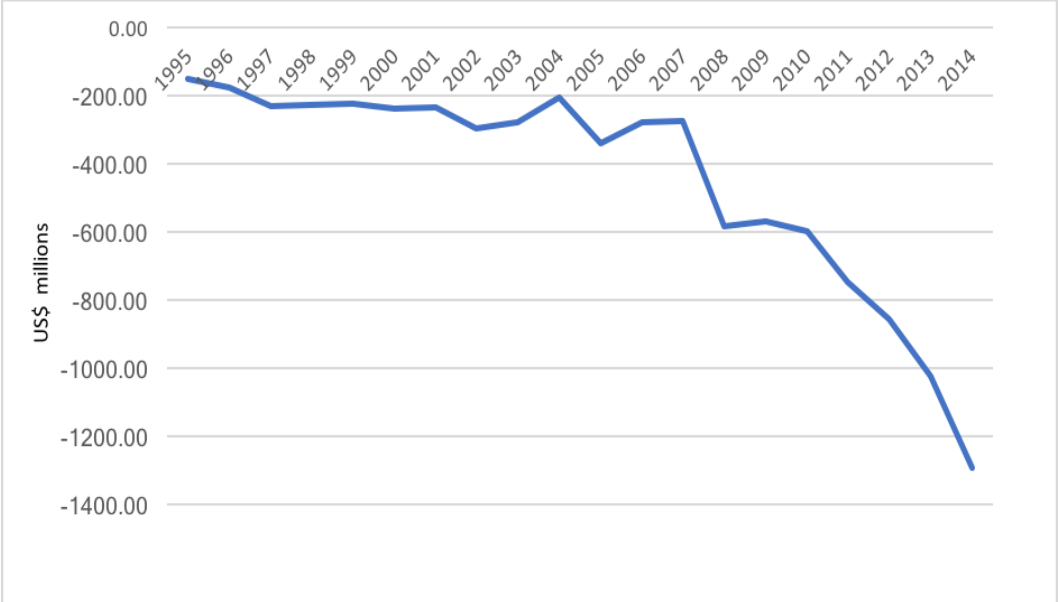
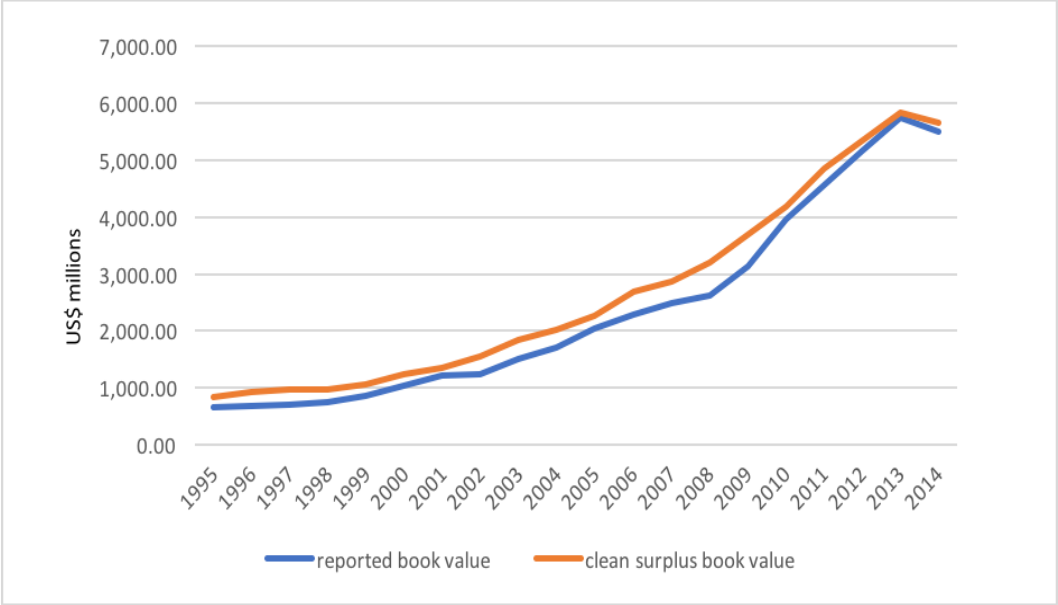


Figure 5.3.14: Construction firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

Generally, a negative accumulated amount of OCI in recent years led to the deviation of reported book value from clean surplus book value. However, this is less pronounced than in the case of the whole sector dataset (see Panel A, Figure 5.3.3).

Unlogged data



Logged data

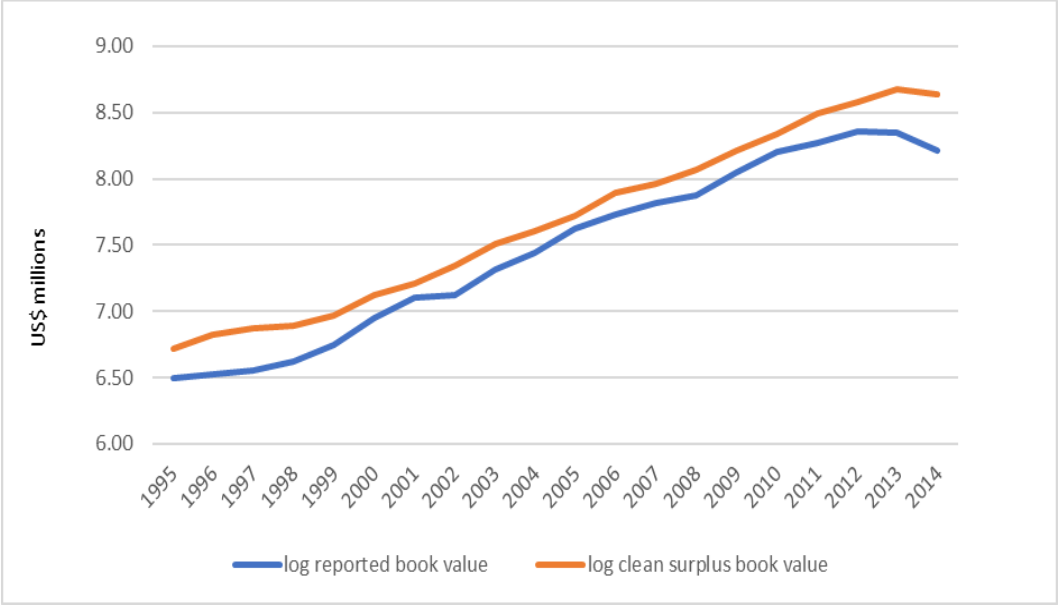


Figure 5.3.15: Construction firms– Comparison of reported and clean surplus book value

OCI shows increased volatility between 2002 and 2009 (see Panel A, Figure 5.3.14). The amount of OCI is positive in 1999, 2003, 2004, 2006 and 2009, and negative in the year immediately following each of these years.

Figure 5.3.16 shows the average ratio of reported book value to clean surplus book value. Over the entire period the average ratio of reported book value was -86% but in the period from 2011 to 2014 it increased to 97%. The standard

deviation as a measure of the volatility of the ratio was also lower (2% compared to 7%). After 2011, the ratio of reported book value to clean surplus book value remained close to the expected value of 1. Based on the criteria used here, earnings quality is judged to be higher in construction firms after 2011.

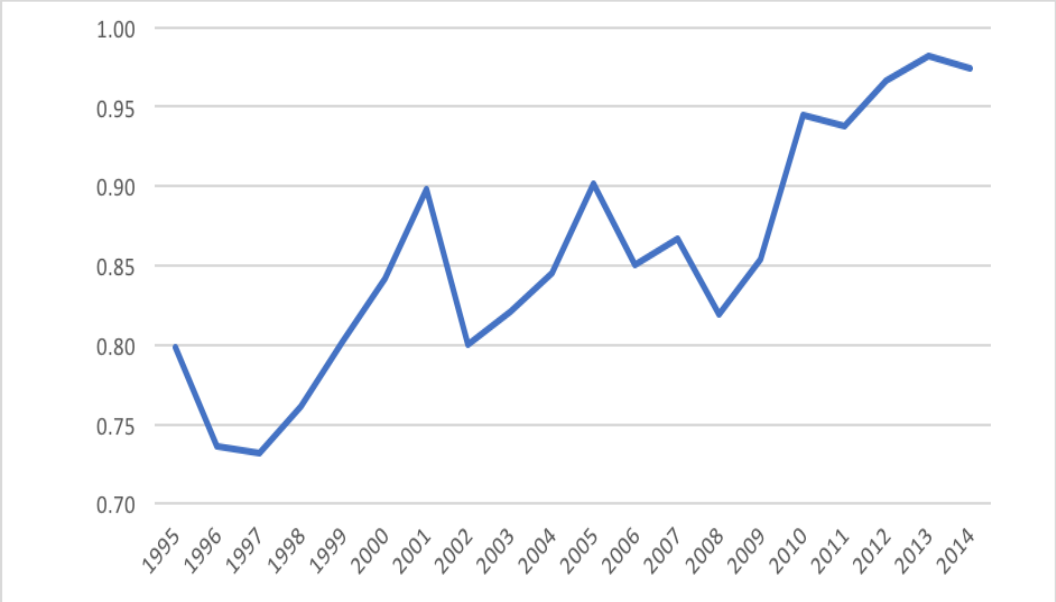


Figure 5.3.16: Construction firms - Ratio of reported book value to clean surplus book value

5.3.5 Manufacturing

Figures 5.3.17, 5.3.18, 5.3.19 and 5.3.20 shows graphs of all variables illustrated previously for manufacturing firms over the period 1995–2014. The earnings of manufacturing firms increased gradually over time. However, there are noticeable adjustments in 2001 and 2002 and again in 2008 and 2009.

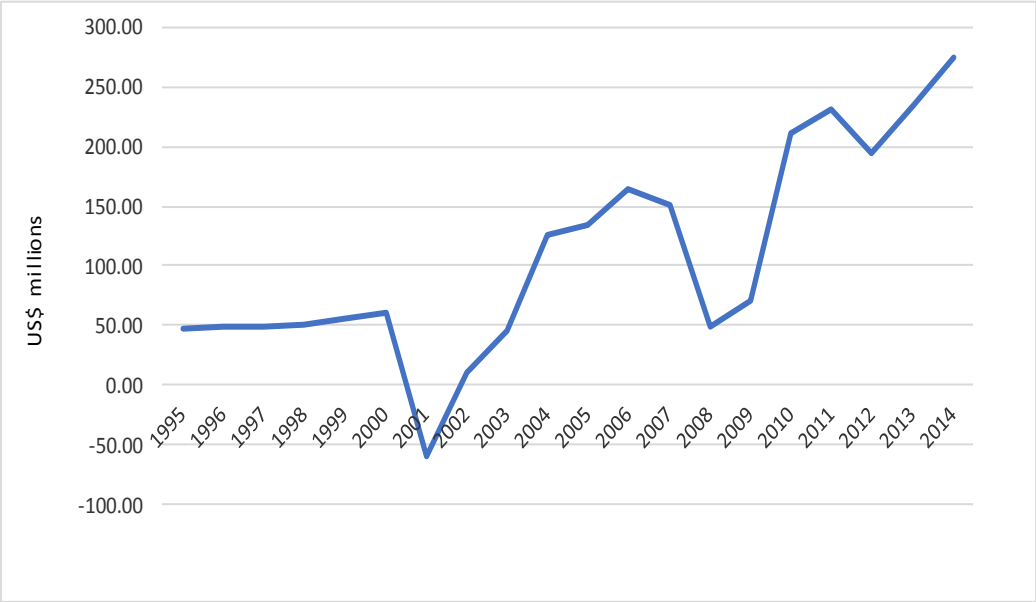


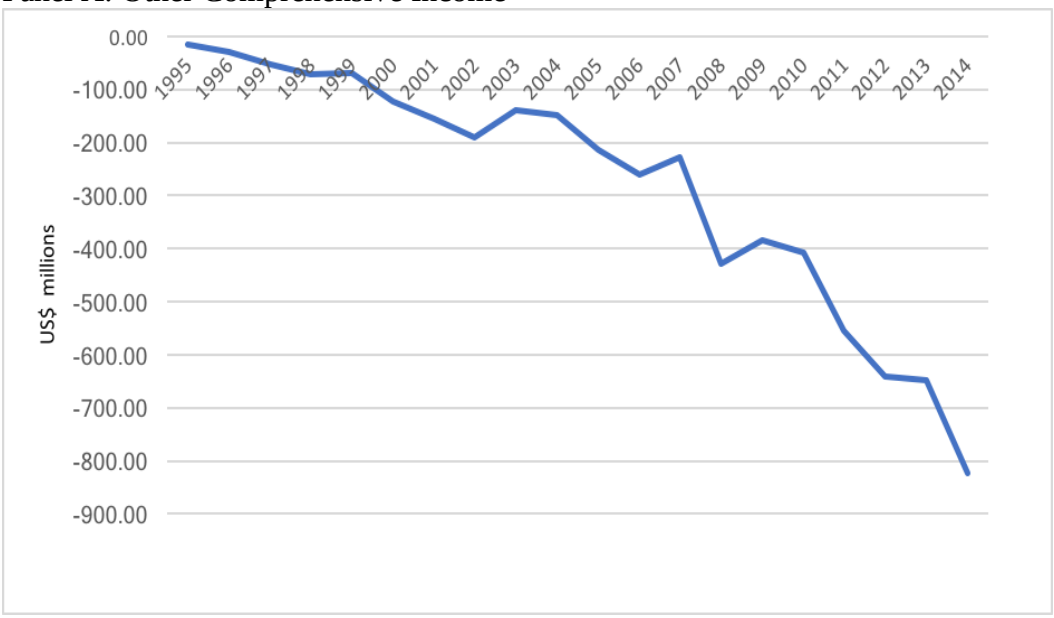
Figure 5.3.17: Manufacturing firms – Earnings

The earnings declined from positive US$70 billion to negative US$60 billion in 2002 and from US$160 billion to below US$50 billion in 2008. This indicates that two financial crises (2001–2002 and 2008–2009) considerably affected firms' earnings in the manufacturing industry. The earnings of manufacturing are higher in the later years of the study period.

Figure 5.3.19 shows a similar pattern to the construction industry, with greater separation between reported and clean surplus book value. The adjustments appearing in AOCI (see Panel B, Figure 5.3.18) for this industry are in similar periods to those previously explained in relation to other industries (construction, mining, etc.).

The fluctuations in OCI (see Panel A, Figure 5.3.18) and earnings patterns are noticeable in later years of the period. The OCI pattern is more volatile than earnings of this industry in the latest years.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

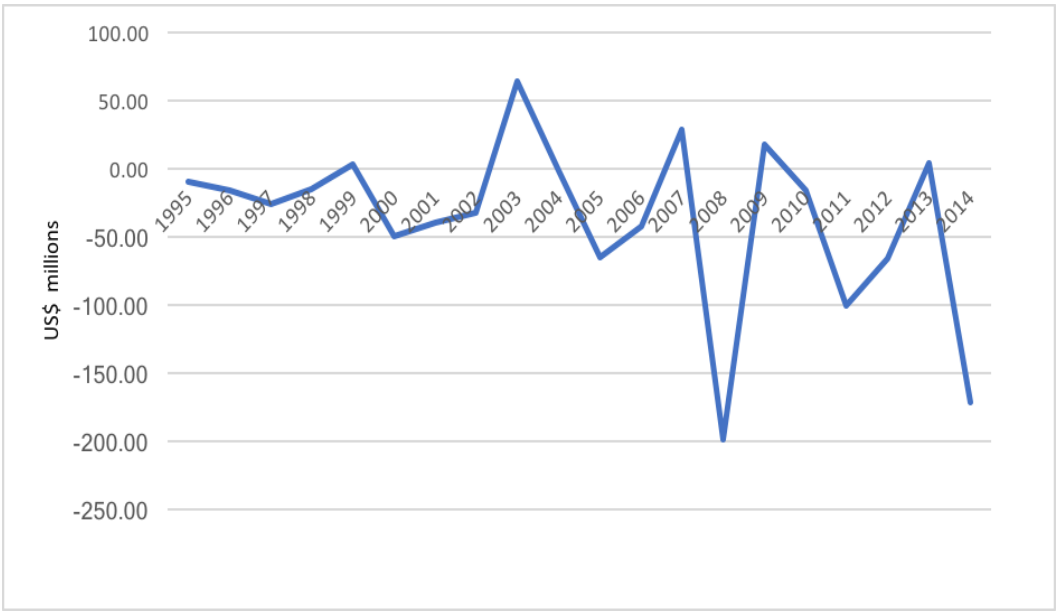
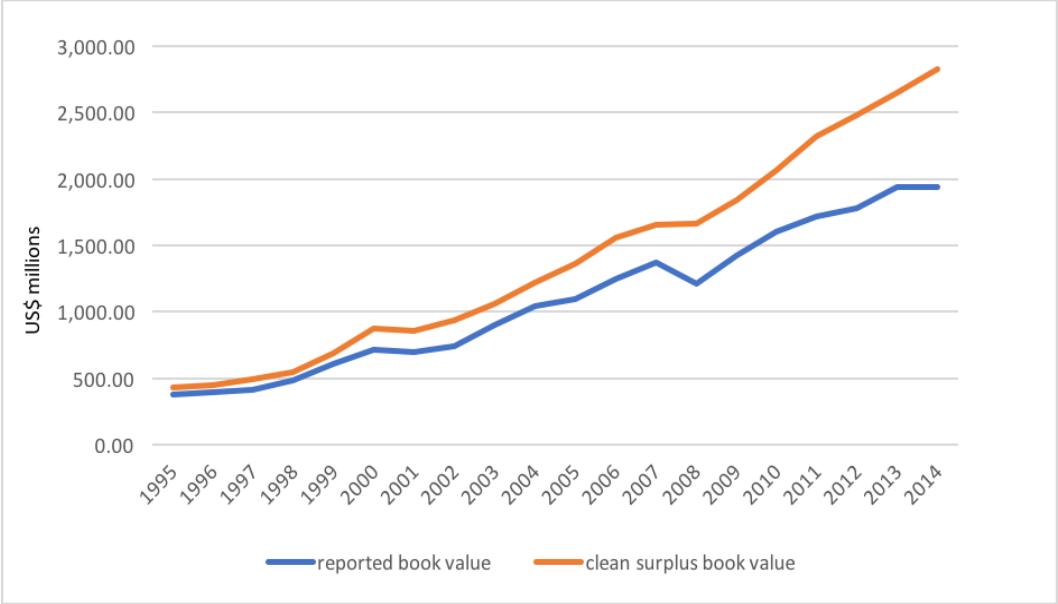


Figure 5.3.18: Manufacturing firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

The largest losses reported in OCI were from 2008 onwards, leading to reported book value diverging from clean surplus book value (see Panels A and B, Figure 5.3.19). There is a definite adjustment in the pattern of reported book value and clean surplus during the GFC. This is also reflected in the pattern of OCI (see Panel A, Figure 5.3.18). Significant negative OCI is recorded in 2006, 2008 and 2014, while the year immediately following each of these years shows a positive value (a similar to some other industries).

Unlogged data



Logged data

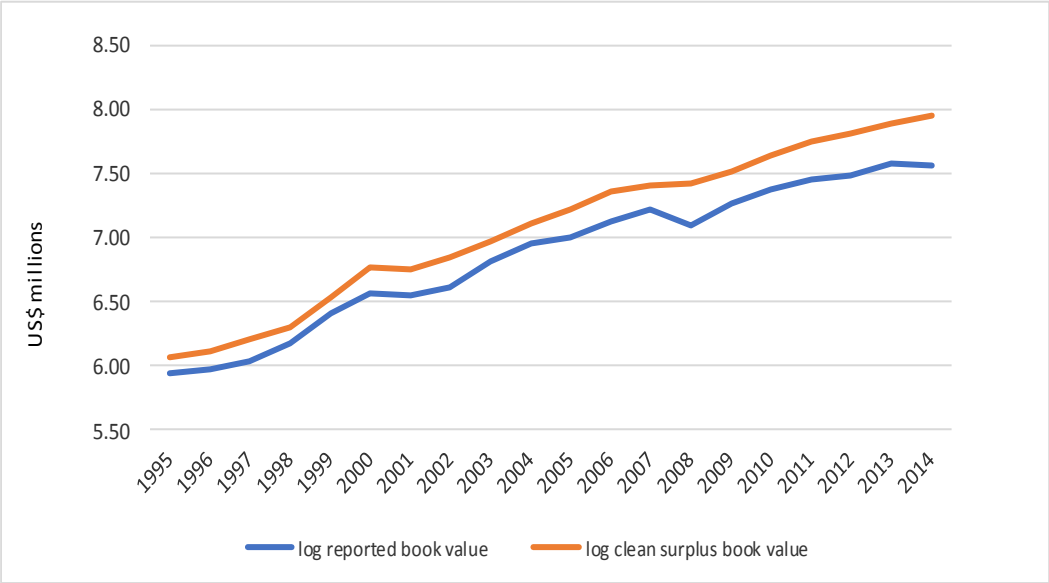


Figure 5.3.19: Manufacturing firms – Comparison of reported book value and clean surplus

Generally, a declining trend in the ratio of reported book value to clean surplus book value (Figure 5.3.20) indicates that reported book value diverges from clean surplus book value. The effect of the two economics crises in 2002 and 2008 is reflected in the ratio of reported book value to clean surplus book value. The average ratio of reported book value to clean surplus book value is about 0.72 in the period 2011–2014, which is lower than that for the entire study period (0.80). This means that book value is reported lower than the book value expected from

the income statement after 2011. Based on the criteria used here, earnings quality declined after 2011.

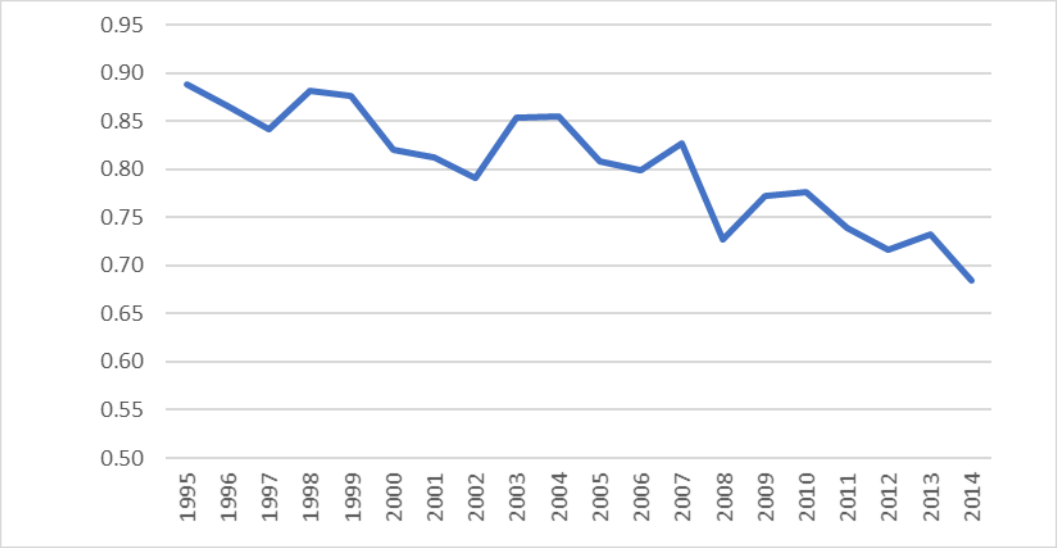


Figure 5.3.20: Manufacturing firms– Ratio of reported book value and clean surplus book value

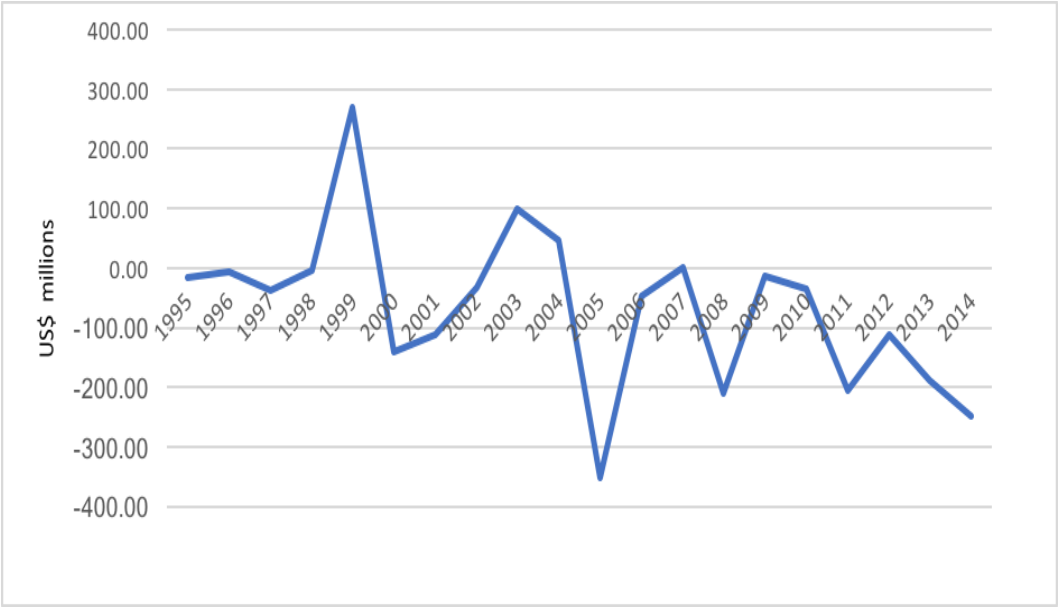
5.3.6: Transportation, Communications, Electric, Gas and Sanitary Services

Figure 5.3.21 shows the patterns of earnings exhibited by firms in transportation, communications, electric, gas and sanitary services. There are noticeable drops in earnings in 2001 for transport firms. For instance, earnings dropped from about US$200 billion to negative US$600 billion in 2002. However, earnings adjustment during GFC is less pronounced than some other industries (e.g., manufacturing). Reported earnings are relatively higher in the later years of the period.

Figure 5.3.21: Transport firms– Earnings

The calculated OCI (see Panel A, Figure 5.3.22) is generally negative after the year 2000, leading to a deviation of reported book value from clean surplus book value (Panel A, Figure 5.3.23). However, this is less pronounced than in the case of the whole dataset (Panel A, Figure 5.3.3). Reported book value is higher than the clean surplus book value by about 2% in 1998, 12% in 1999, 5% in 2001 and 3% in 2002. The average ratio of clean surplus book value to reported book value is about 0.91 from 2011 to 2014, which is less than the entire study period (0.96). This indicates that the growth of losses in OCI after 2011 cause reported book value to diverge from the clean surplus book. The accumulated size of OCI is about negative US$1.4 billion by 2014 (Panel B, Figure 5.3.22). The effect of the GFC on AOCI of transport firms was less noticeable than that on some other industries (e.g., construction).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

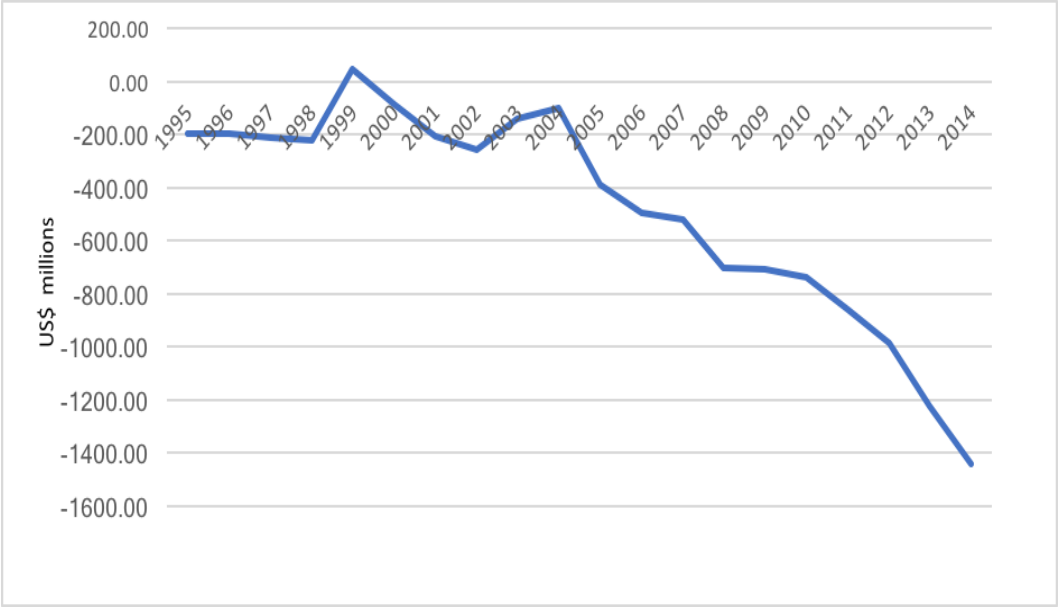
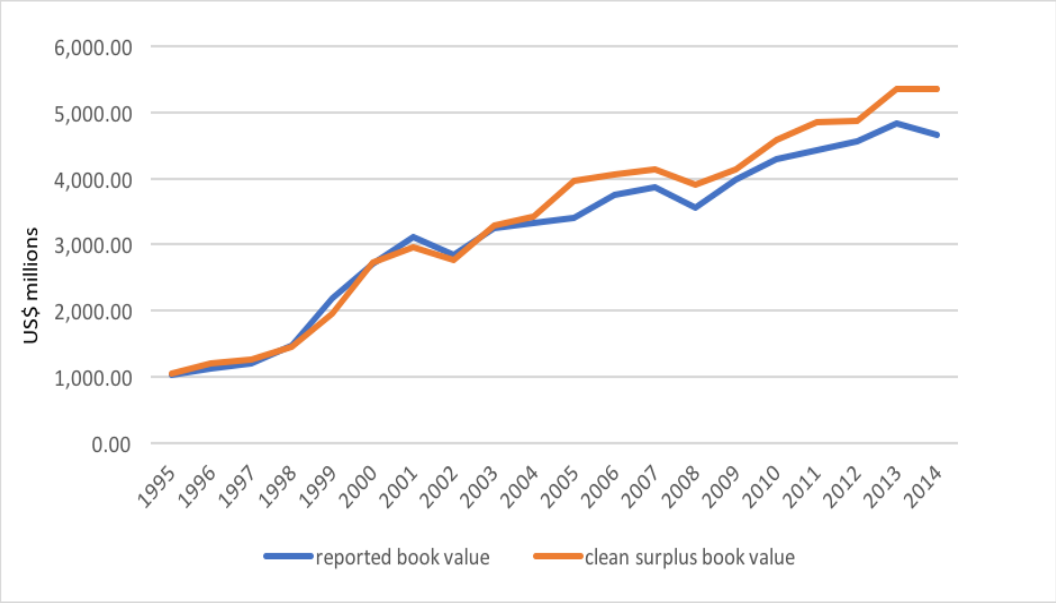


Figure 5.3.22: Transport firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

The AOCI becomes positive in 1999. This shows that the pattern of OCI does not necessarily always show as negative (Panel A, Figure 5.3.22). The pattern of OCI shows increased volatility from 2000 to 2014 (Panel A, Figure 5.3.22). The standard deviation of OCI is about 117.88% in this period. The significant losses in OCI in this industry are reported in 2005, 2008 and 2014 (Panel A, Figure 5.3.22).

Unlogged data



Logged data

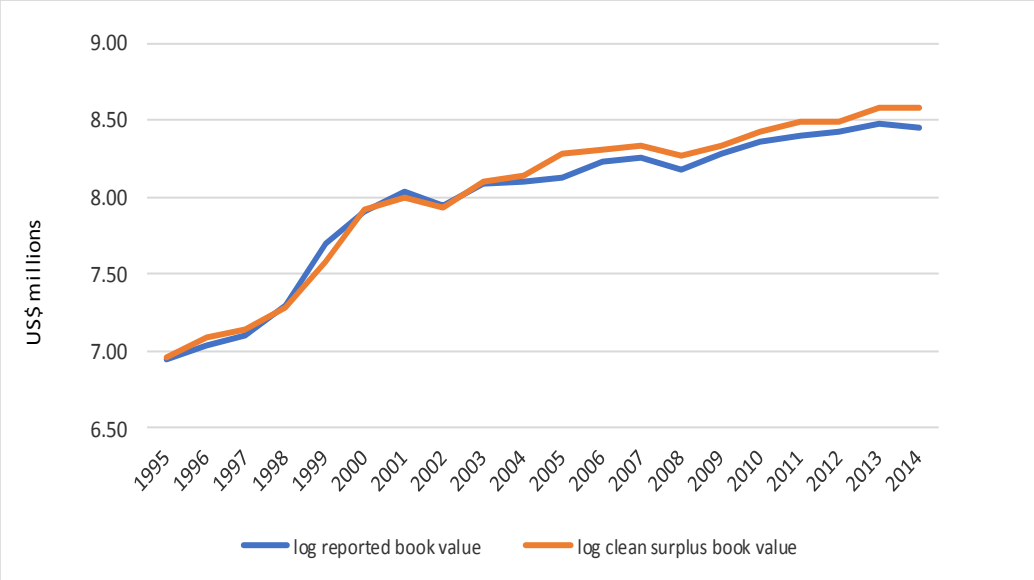


Figure 5.3.23: Transport firms – Comparison of reported book value and clean surplus book value

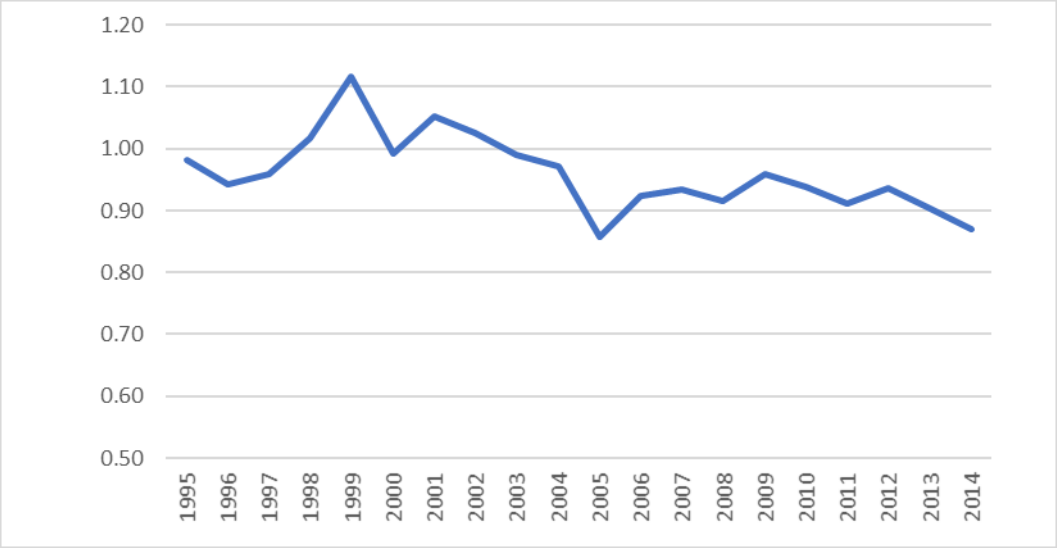


Figure 5.3.24: Transport firms – Ratio of reported book value to clean surplus book value

The average ratio of reported book value (Figure 5.3.24) is about 0.91 between 2011 and 2014, slightly lower than over the overall study period (0.96). This ratio for Transport firms remained close to the expected value of 1 throughout the study period, indicating that book value was reported close to book value as expected from the income statement. Earnings quality is judged relatively higher than in some other industries (e.g., manufacturing).

5.3.7: Wholesale Trade

Figure 5.3.25 shows the behaviour of earnings of wholesale trade firms over the period 1995–2014. There is an increasing pattern in earnings throughout the study period; however, there is noticeable correction during GFC. Earnings declined from about US$180 million to US$100 million in 2008 and remained over US$200 million after 2011.

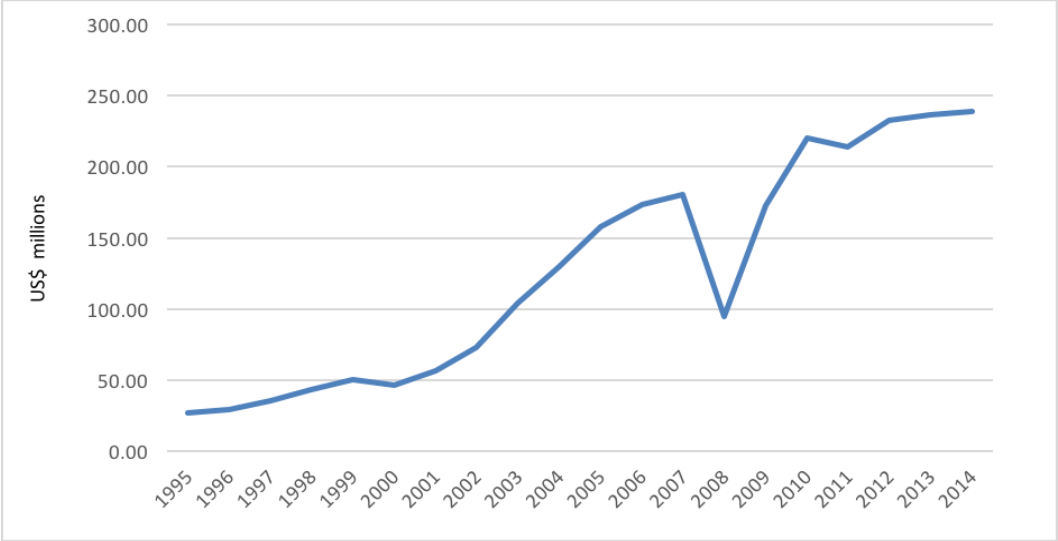
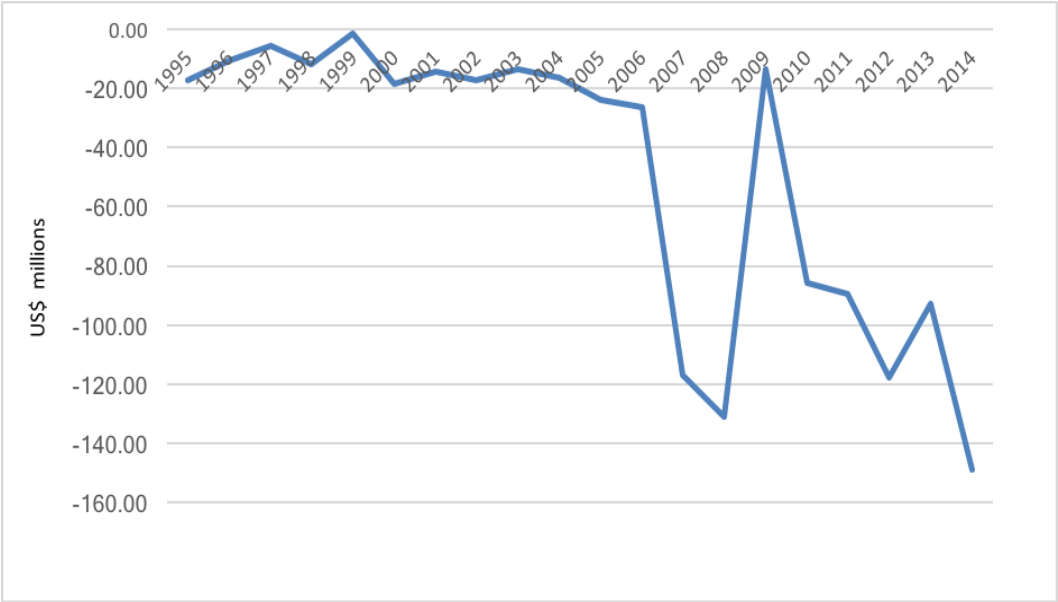


Figure 5.3.25: Wholesale Trade firms– Earnings

The reporting of AOCI for this industry (Panel B, Figure 5.3.26) displays a smooth, strong downward trend leading to a greater divergence between reported and clean surplus book value (as per figure 5.3.27). The difference between reported book value and clean surplus book value increased over time with exponential growth of losses in OCI. There is no noticeable adjustment in AOCI in the GFC period, unlike the patterns observed in some of the other industries studied. However, there is a noticeable correction in OCI in 2008, which reversed out in the subsequent year (see Panel A, Figure 5.3.26).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

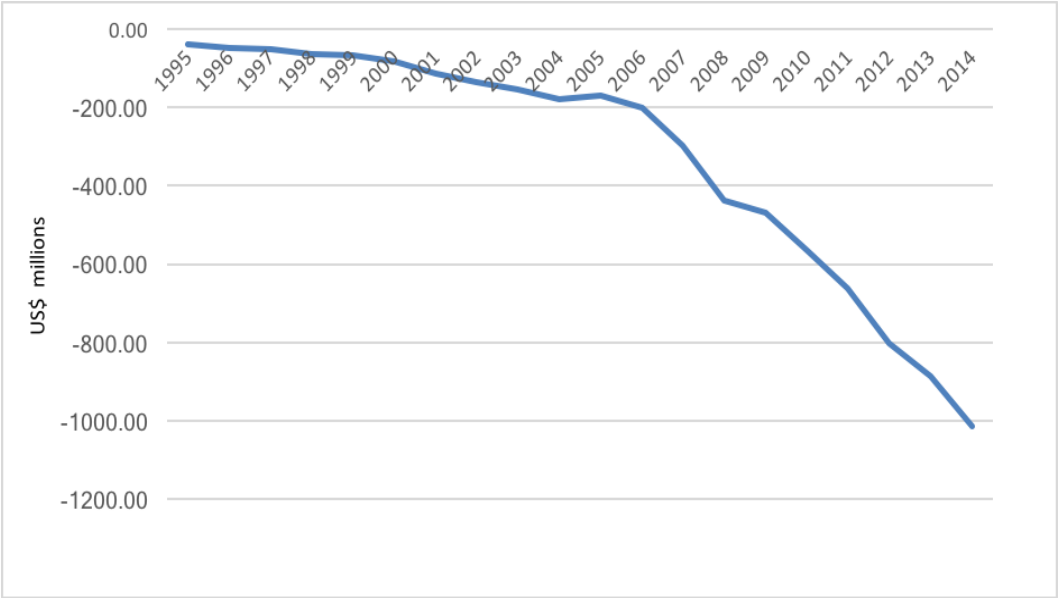
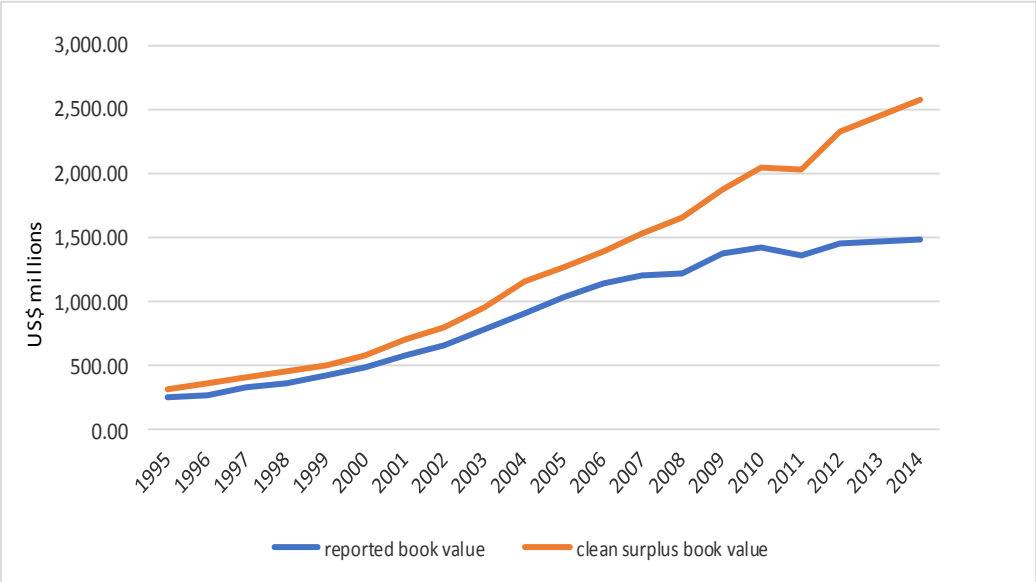


Figure 5.3.26: Wholesale Trade firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

AOCI and OCI remained negative throughout the study period. The average OCI is negative US$120 million from 2011 to 2014, higher than the average for the overall study period (negative US$49 million).

Unlogged data



Logged data

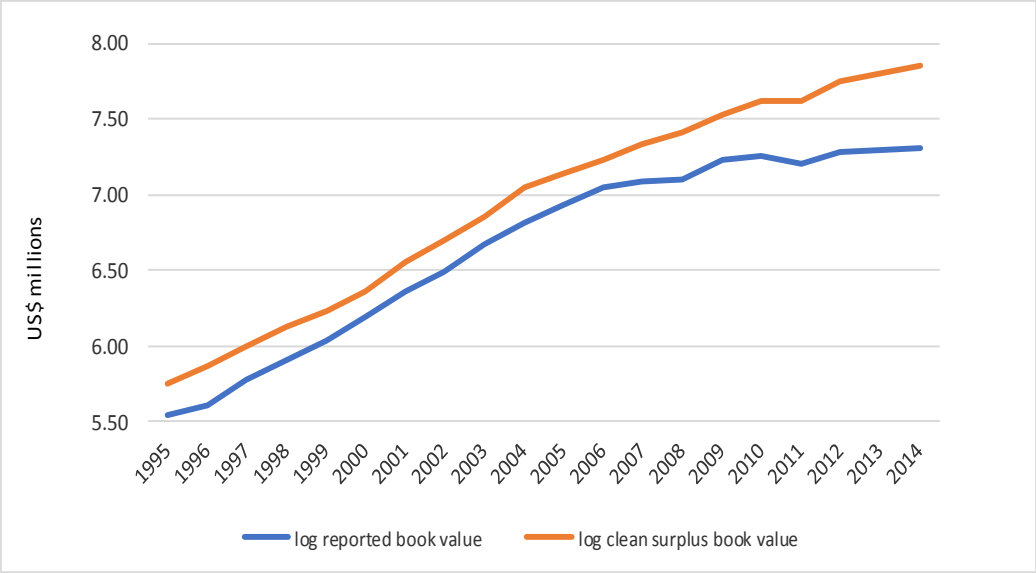


Figure 5.3.27: Wholesale Trade firms – Comparison of reported book value and clean surplus book value

Figure 5.3.28 shows the ratio of reported book value to clean surplus book value. Over the entire period, the average ratio remained below the expected value of 1; it declined from 0.80 to below 0.60 after 2011. This indicates that book value is reported noticeably lower than clean surplus book value. Other losses were increased after 2011 (see Figure 5.3.26). The average ratio of reported book value to clean surplus book value between 2011 and 2014 is about 0.62 lower than over the entire study period (0.76). Based on the criteria used here, earnings quality declined after 2011.

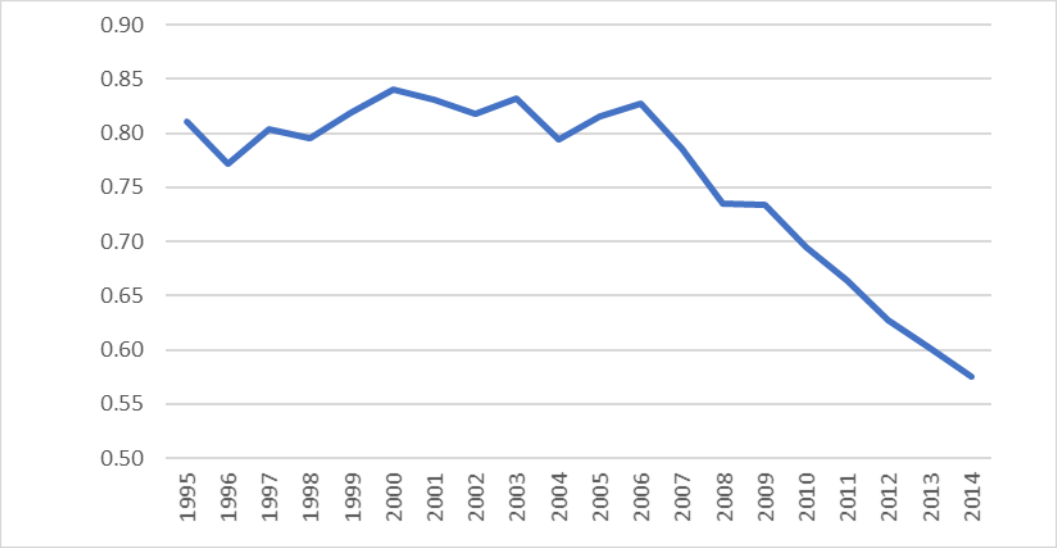


Figure 5.3.28: Wholesale Trade firms – Ratio of reported book value to clean surplus book value

5.3.8: Retail Trade

Figure 5.3.29 shows the patterns of the earnings of retail firms. The earnings behaviour of retail firms shows a similar trend as exhibited in some other industries (e.g., manufacturing). The earnings dropped from about US$400 million to negative US$250 million in 2008. However, the earnings gradually increased to about US$400 million in the later years of the period.

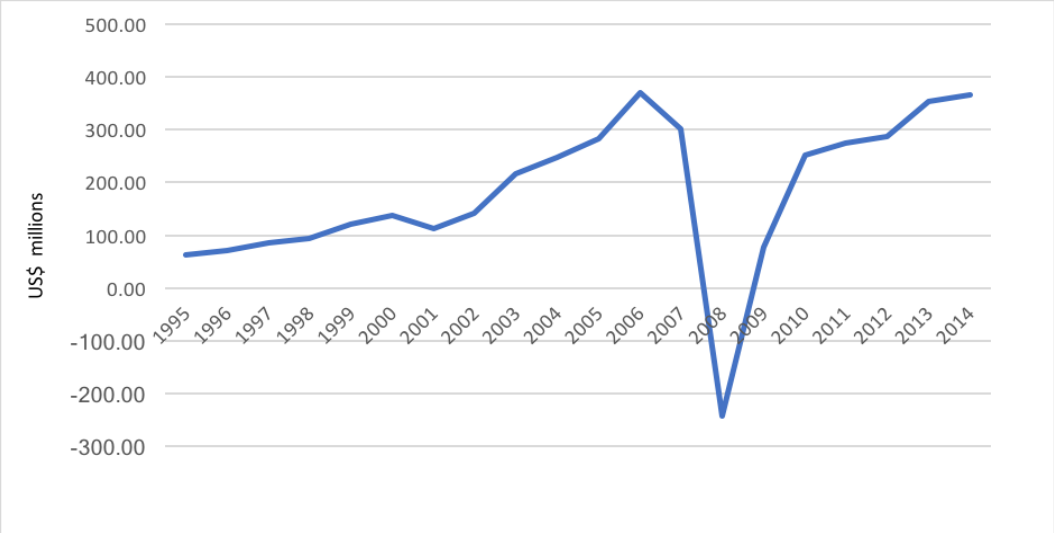
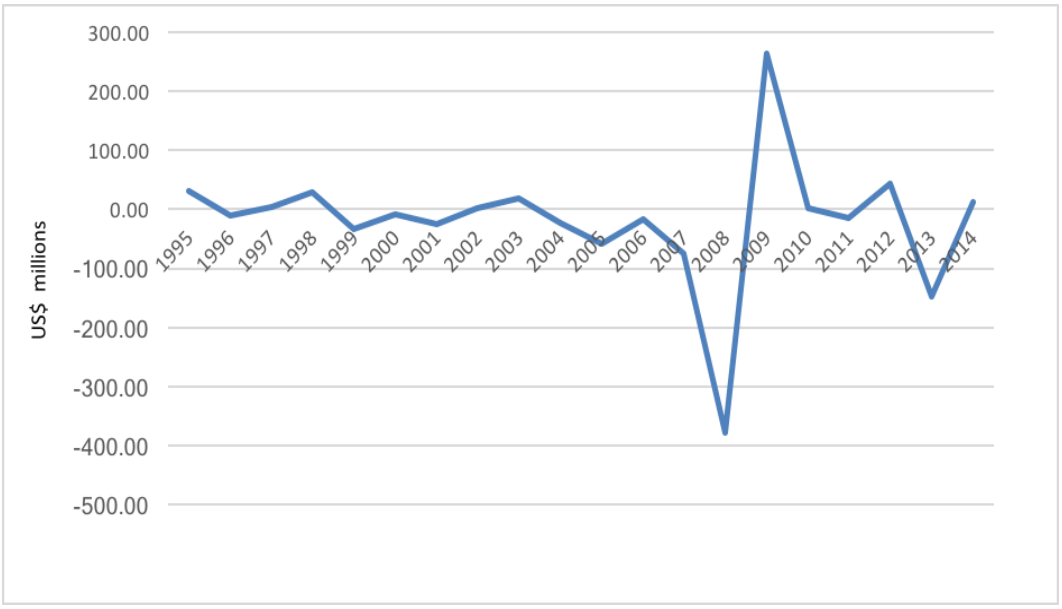


Figure 5.3. 29: Retail Trade firms– Earnings

The adjustments appearing in AOCI and OCI (see Figure 5.3.30) for this industry are in similar periods (e.g., the GFC) to those observed in some other industries (e.g., construction and mining).

OCI experienced a sharp decline in 2008, which recovered in the subsequent period (Panel A, Figure 5.3.30). The behaviour of OCI is more volatile in the later years of the period. The standard deviation, a measure of the volatility of earnings, is 1.41% higher than OCI (1.09%) over the study period. The growth of losses in OCI in the later year led to reported book value diverging from clean surplus book value (Figure 5.3.31). The significant losses in OCI are reported in 2008 and 2013. The growth of losses in OCI are reflected in the pattern of AOCI (Panel B, Figure 5.3.30). There is a noticeable correction in the pattern of OCI and AOCI during the GFC.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

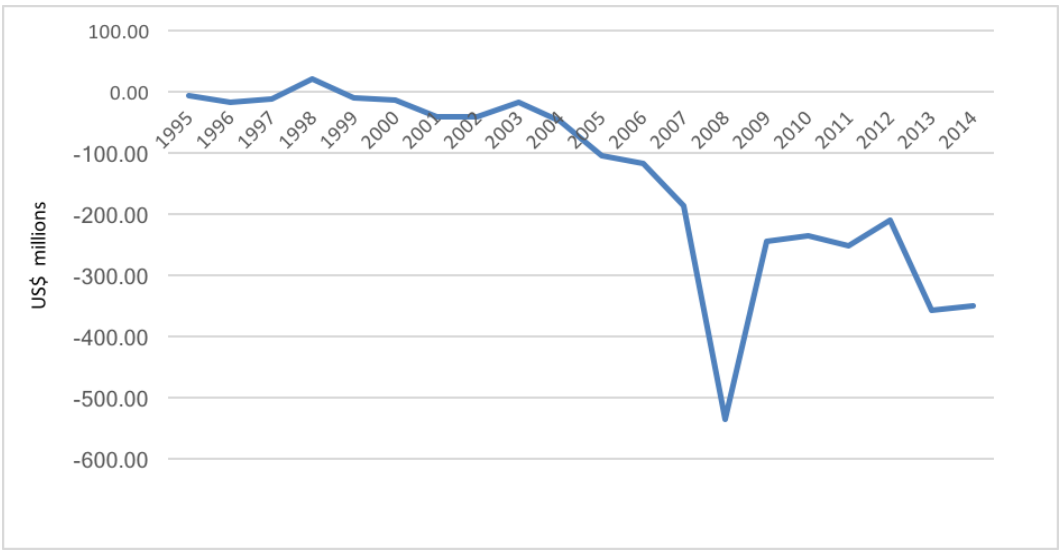
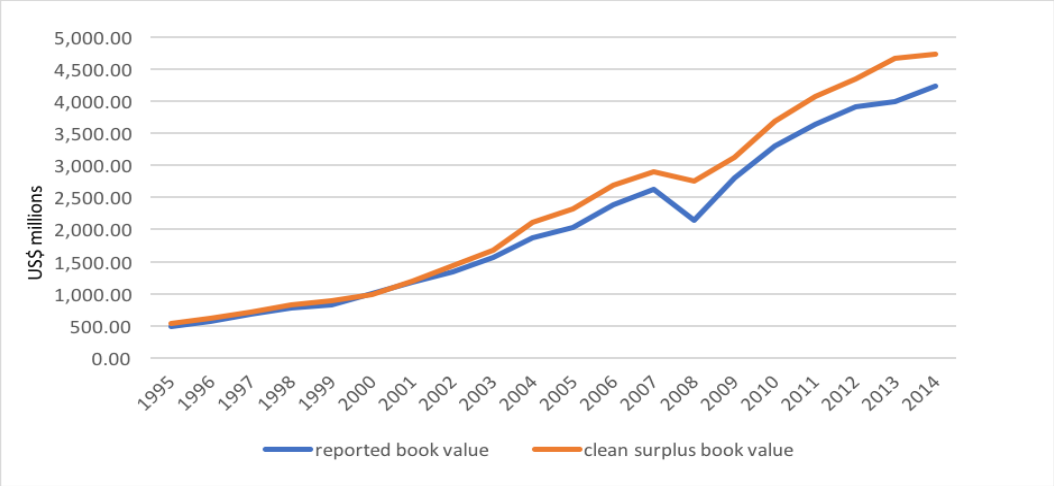


Figure 5.3. 30 : Retail Trade firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

Figure 5.3.31 shows a similar pattern to that seen for all Compustat firms, with less divergence between reported and clean surplus book value. Reported book value is 22% less than clean surplus book value in 2008, and 10% less than the previous year (10%). The average difference between the reported and clean surplus book value is negative US$518 million between 2011 and 2014, which is higher than for the overall study period (negative US$258 million).

Unlogged data



Logged data

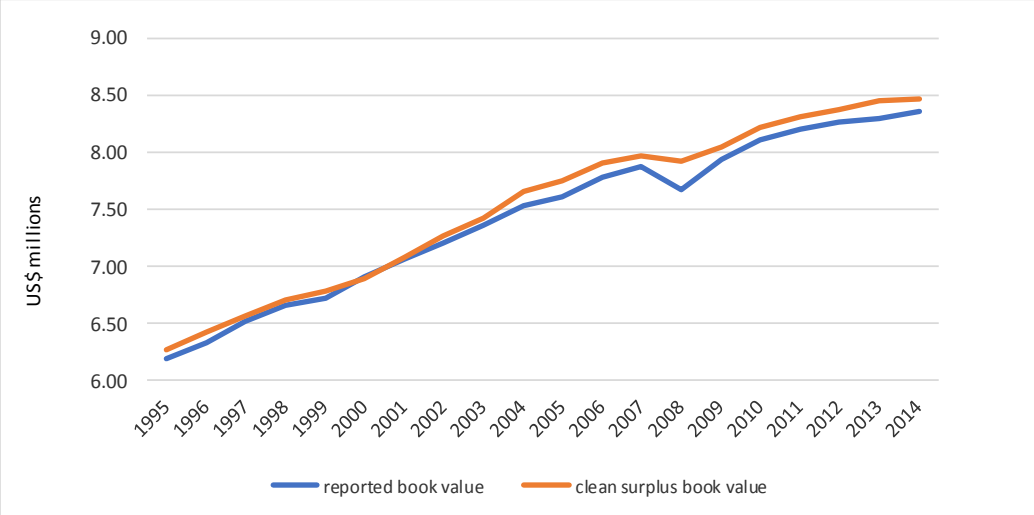


Figure 5.3. 31: Retail Trade firms – Comparison of reported book value and clean surplus book value

The ratio of reported book value to clean surplus book value remained close to 1 in the initial study period; reported OCI was close to zero in this period. However, the ratio of reported book value dropped by up to 0.8 in the later years of the period. After 2011, earnings quality with respect to clean surplus is not as high as expected.

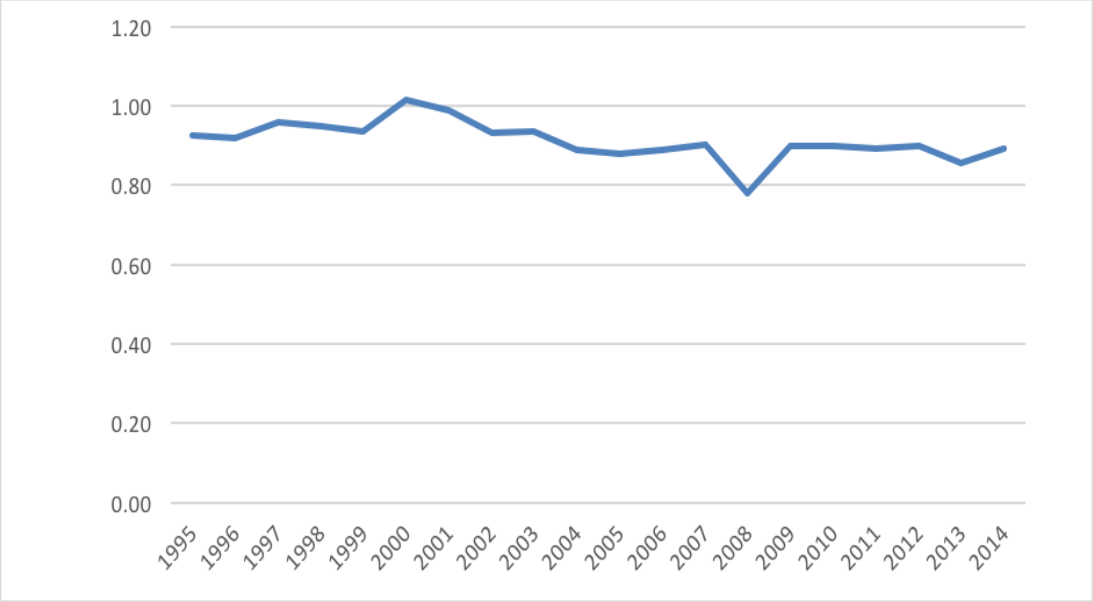


Figure 5.3. 32: Retail Trade firms– Ratio of reported book value to clean surplus book value.

5.3.9 Finance, Insurance and Real Estate

Figure 5.3.33 shows earnings behaviour of firms listed in the finance, insurance and real estate sector for the period 1995–2014. Earnings generally increased over time. However, there is a noticeable adjustment in 2000 and 2001. The earnings dropped from about US$32 million to negative US$78 million in 2001. The adjustment in earnings during the GFC is less pronounced than that observed in some other industries (e.g., retails trade). After 2011, earnings of the financial sector are relatively higher than during the initial years of the study period.

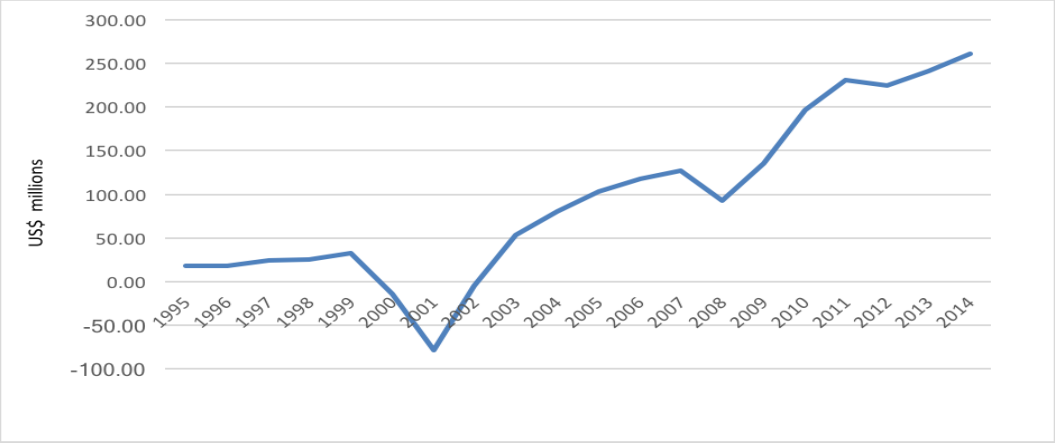
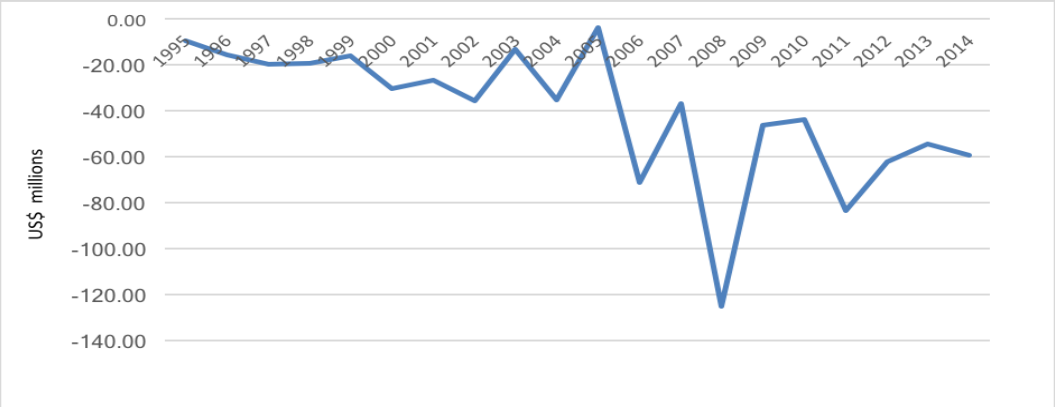


Figure 5.3. 33: Finance firms – Earnings

The treatment of OCI (Panel A, Figure 5.3.34) is very consistent throughout the period studied, with few adjustments to its negative trend. OCI experienced a sharp drop in 2008 followed by a sharp increase in 2009, which are indicative of the market volatility during the GFC and the recent study period. In this industry, significant losses in OCI were reported in 2006, 2008, 2011 and 2012.

The inspection of financial statements of firms listed in this industry group suggests that items of OCI that underwent only partial reversal in recent years is evidence that the AOCI was very high by 2014. The reporting of AOCI (Panel B, Figure 5.3.34) displays a smooth, strong downward trend with no adjustment in 2008, which is unlike the trend observed in some other industries (e.g., manufacturing).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

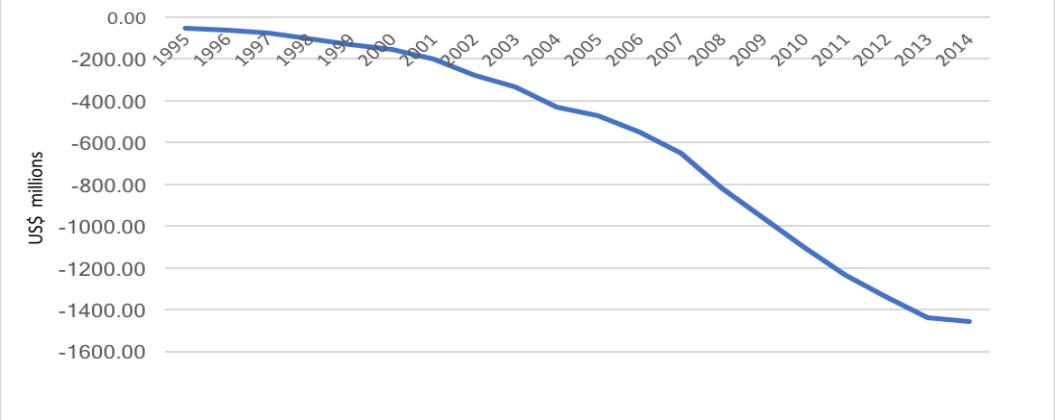
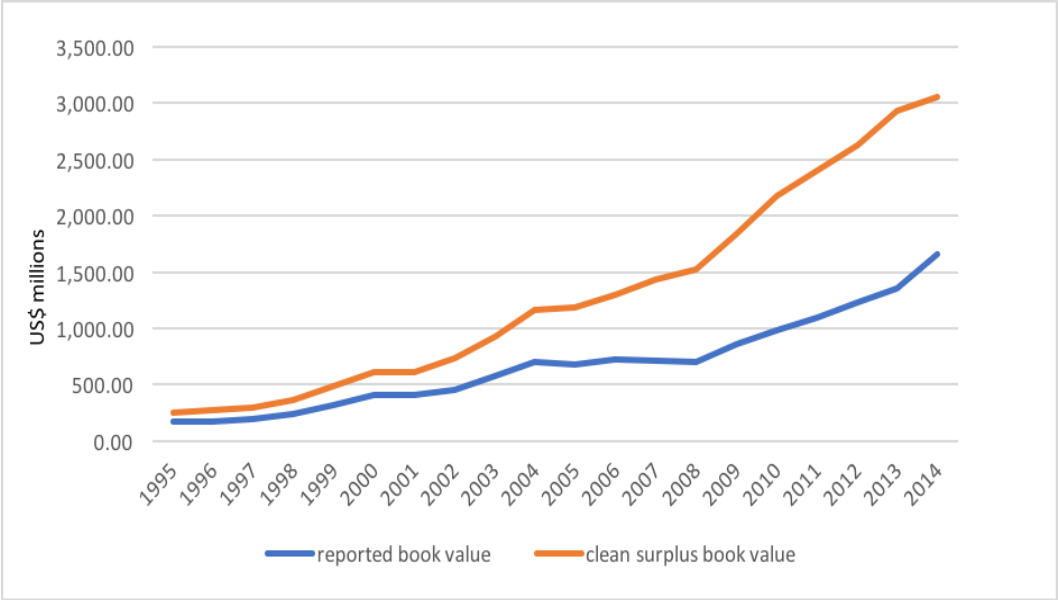


Figure 5.3. 34: Finance firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

Generally, the difference between clean surplus book value and reported book value (Figure 5.3.35) is more variable in the later years of the period, suggesting that the largest losses are reported in OCI in those years.

Unlogged data



Logged data

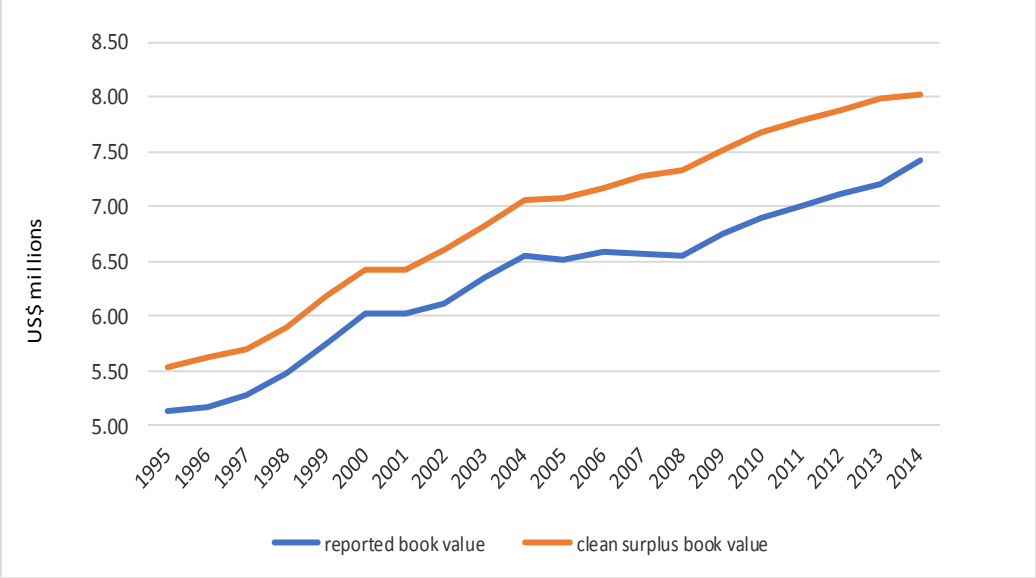


Figure 5.3. 35: Finance firms – Comparison of reported book value and clean surplus book value

The average separation of reported and clean surplus book value between 2011 and 2014 was more than double (US$1.42 billion) that during the overall study period (US$628 million).

Figure 5.3.36 displays the ratio of reported book value to clean surplus book value. Over the entire period, the average ratio was 0.57, but between 2011 and 2014 it dropped to 0.48. This means that book value is reported noticeably lower than clean surplus book value after 2011 and shows low earnings quality in recent period.

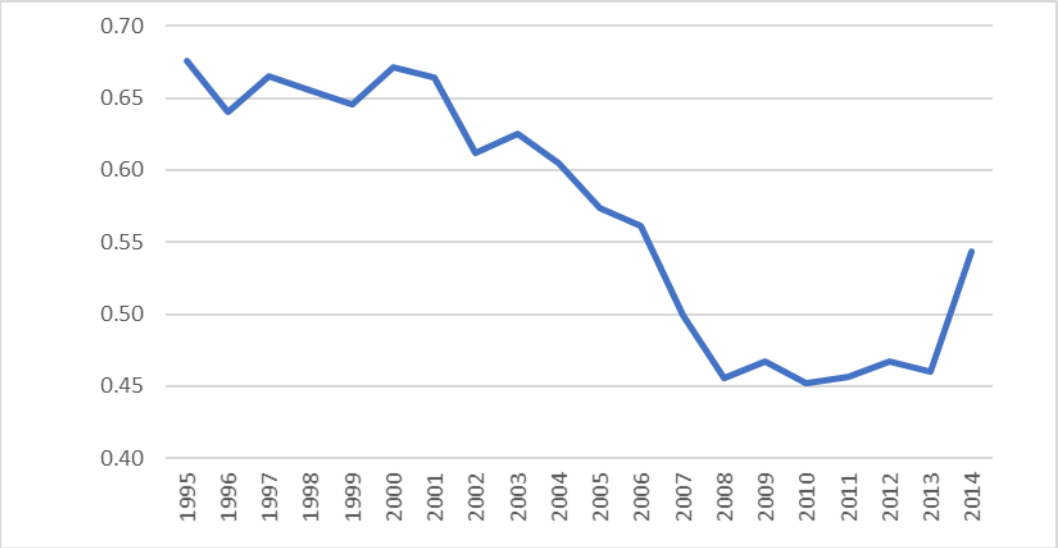


Figure 5.3. 36: Finance firms – Ratio of reported book value to clean surplus book value

5.3.10 Service

Figure 5.3.37 displays the pattern of earnings for firms in the services industry over the period 1995–2014. There is a gradual increase in earnings of firms. Adjustments during the two financial crises were less pronounced in-service firms, which differs from the pattern observed in some other industries (e.g., manufacturing). In the initial years of the study period, earnings of service firms were about US$10 million, which increased to about US$100 million by 2014.

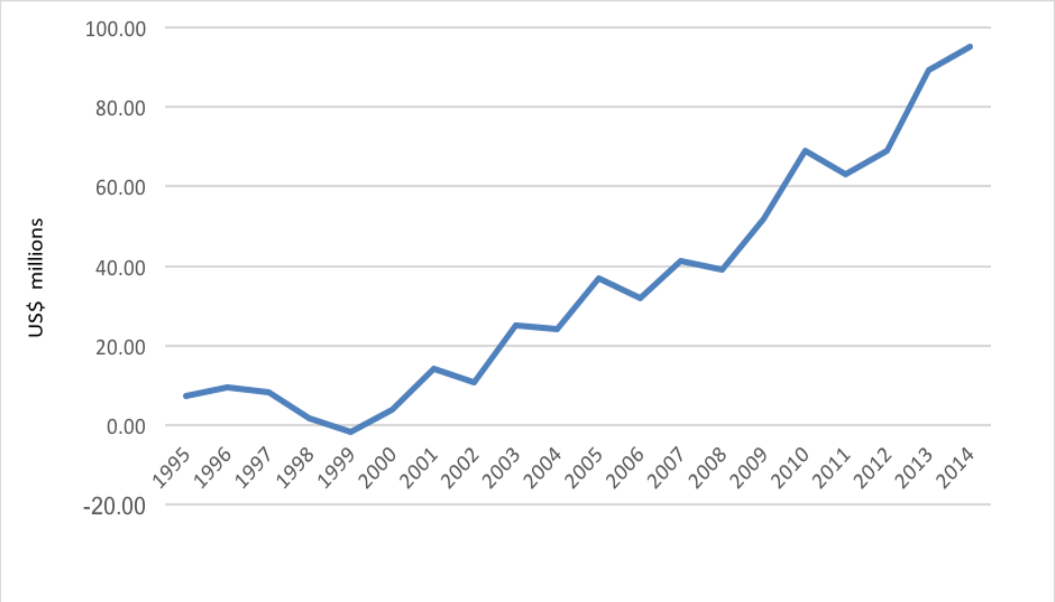
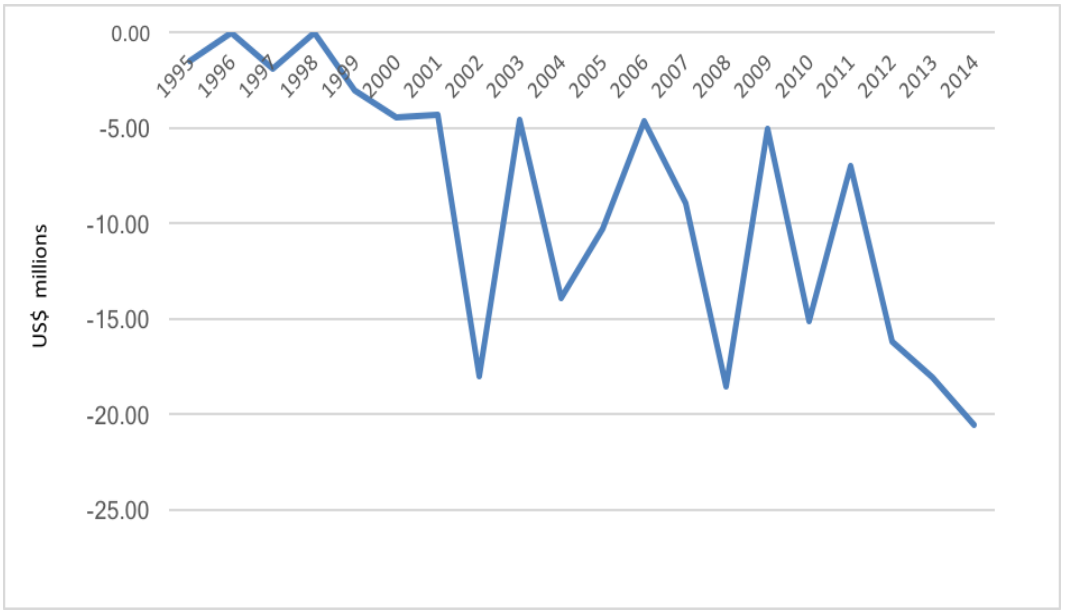


Figure 5.3. 37: Service firms – Earnings

The reporting patterns in this SIC classification were similar to those of the overall sample. AOCI (see Panel B, Figure 5.3.38) was consistently negative, except for a noticeable adjustment in 2006. The average AOCI between 2011 and 2014 was negative US$126 million, higher than the overall study period (negative US$52 million).

The OCI (Panel A, Figure 5.3.38) was zero or negative throughout the study period. However, the largest losses were reported in OCI in the later years of the period. OCI items that only partially reversed after 2000 show that the AOCI was very high by 2014. The OCI dropped from negative US$5 million to less than negative US$15 million in 2003 and 2008; however, it reversed out in subsequent years. There is high volatility in OCI of firms in service industry, which differs from patterns observed in some other industries (e.g., agriculture).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

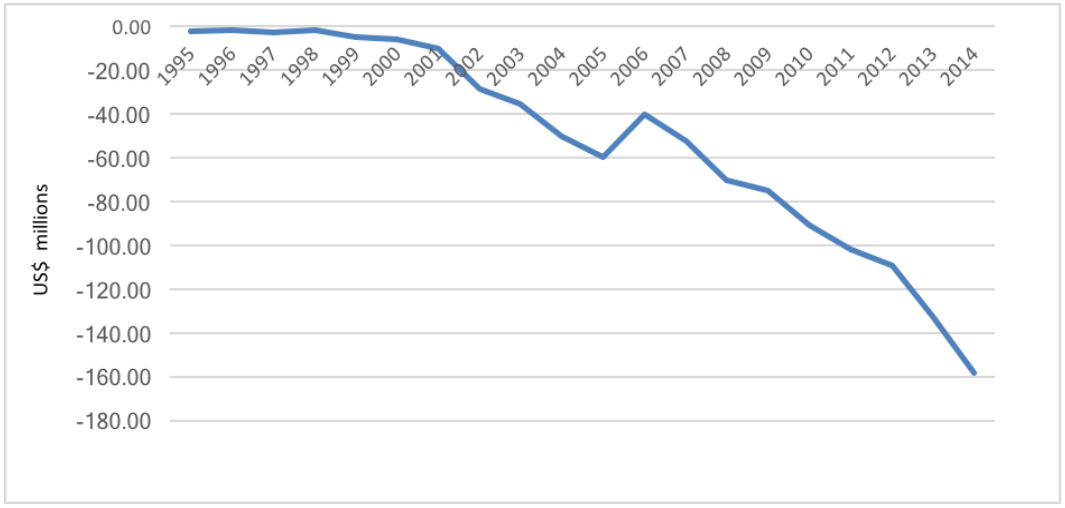
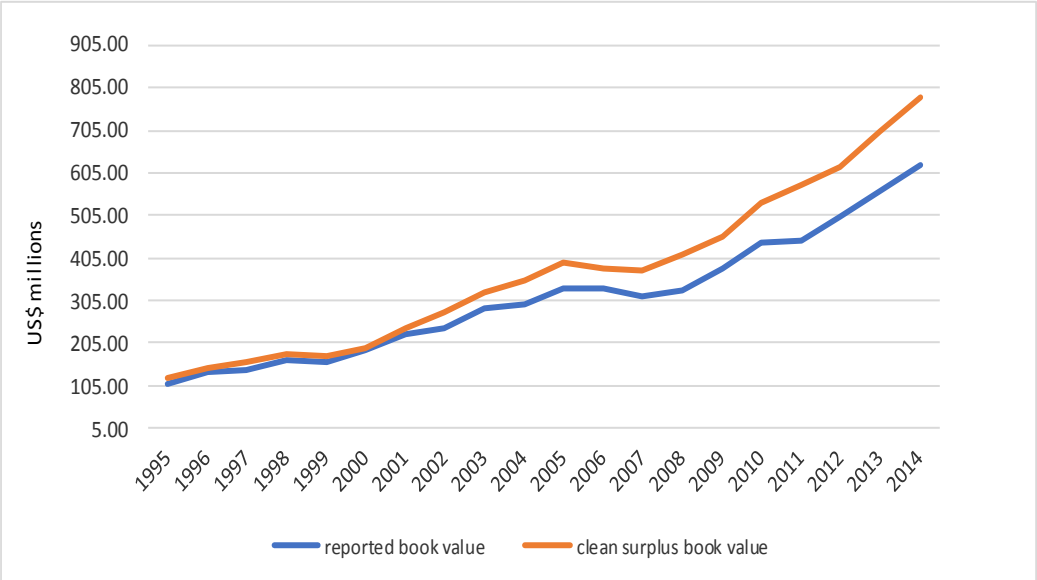


Figure 5.3.39: Service firms – Other Comprehensive Income and Accumulated Other Comprehensive Income

Over the entire study period, the standard deviation, a measure of volatility, is US$6.72 million. Generally, the largest negative reporting of OCI for service firms after 2011 led to an increase in the gap between clean surplus book value and reported book value (see Figure 5.3.39).

Unlogged data



Logged data

Figure 5.3. 38: Service firms – Comparison of reported book value and clean surplus book value

The average difference between reported book value and clean surplus book value between 2011 and 2014 is negative US$137 million, which is more than twice that of the overall study period (negative US$59 million).

Figure 5.3.40 shows the ratio of reported book value to clean surplus book value. The ratio dropped from about 1 to 0.80 in the later years of the period. After 2011,

book value is reported 20% less than clean surplus book value. After 2011, earnings quality is judged lower.

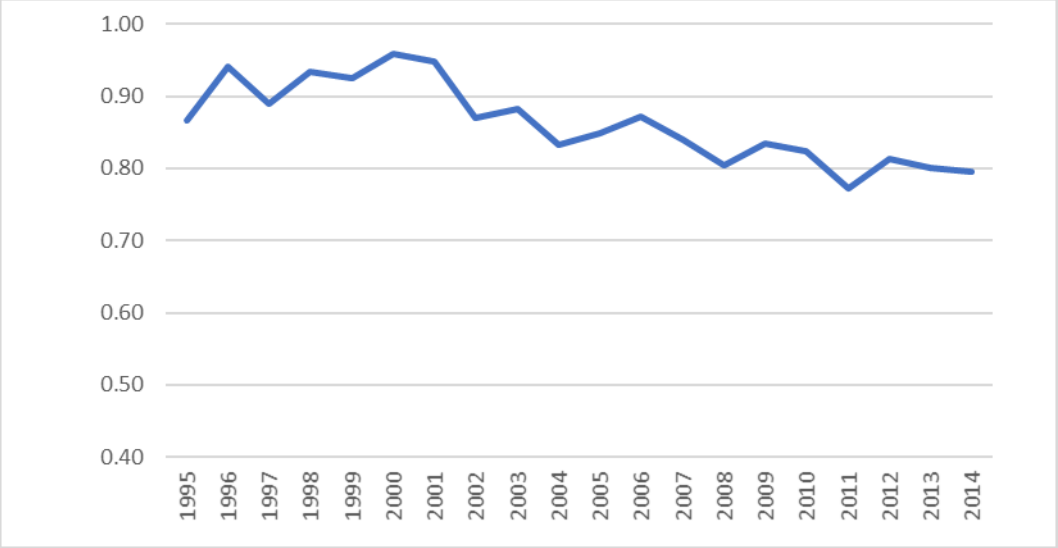


Figure 5.3. 39: Service firms – Ratio of reported book value to clean book value

5.3.11 Public Administration

Figure 5.3.41 displays the earnings behaviour of public administration firms for the period 1995–2014. The earnings show a similar pattern as that shown by some other industries (e.g., construction). Earnings of public administration firms dropped from about US$1.5 billion to US$0.68 billion in 2008. Average earnings between 2011 and 2014 were about US$3 billion higher than during the entire study period (US$1.2 billion).

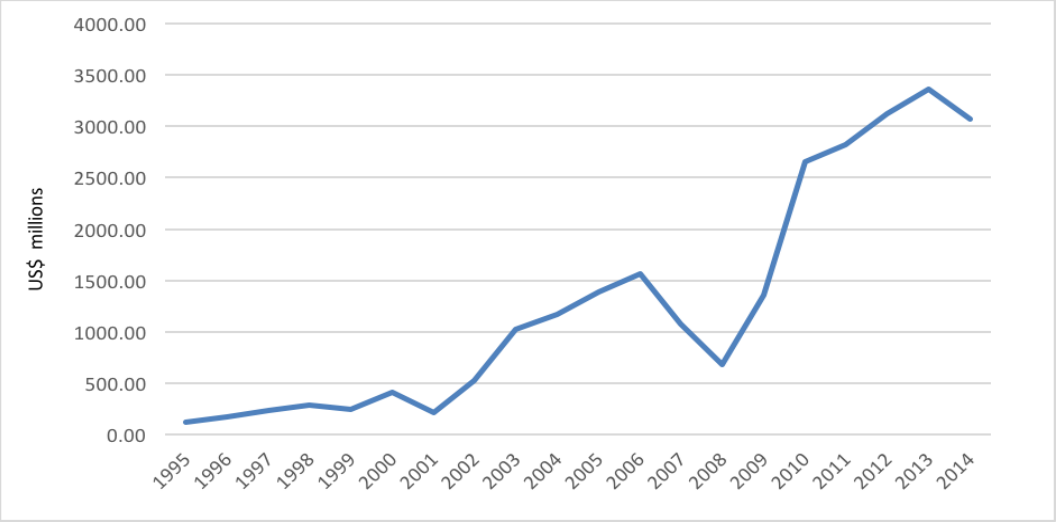


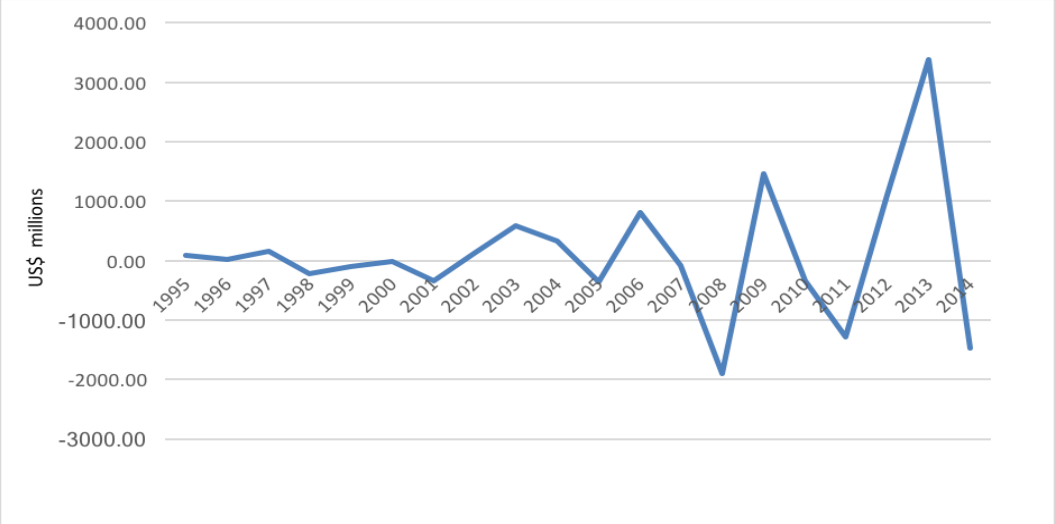
Figure 5.3. 40: Public Administration firms (SIC 9000–9999) – Earnings

The pattern of AOCI (see Panel B, Figure 5.3.42) for public administration firms is markedly different from that for other industries. AOCI is generally positive, but the impact of the two financial crises appear to have been very noticeable.

The very strongly increasing positive trend after 2011 (see Panel B, Figure 5.3.42) is a function of the exponential nature of the growth in gains.

The pattern of OCI (see Panel A, Figure 5.3.78) also shows increased volatility in the later years of the sample period. The path of OCI is generally positive, in contrast to the negative trend observed in some other industries (e.g., manufacturing).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

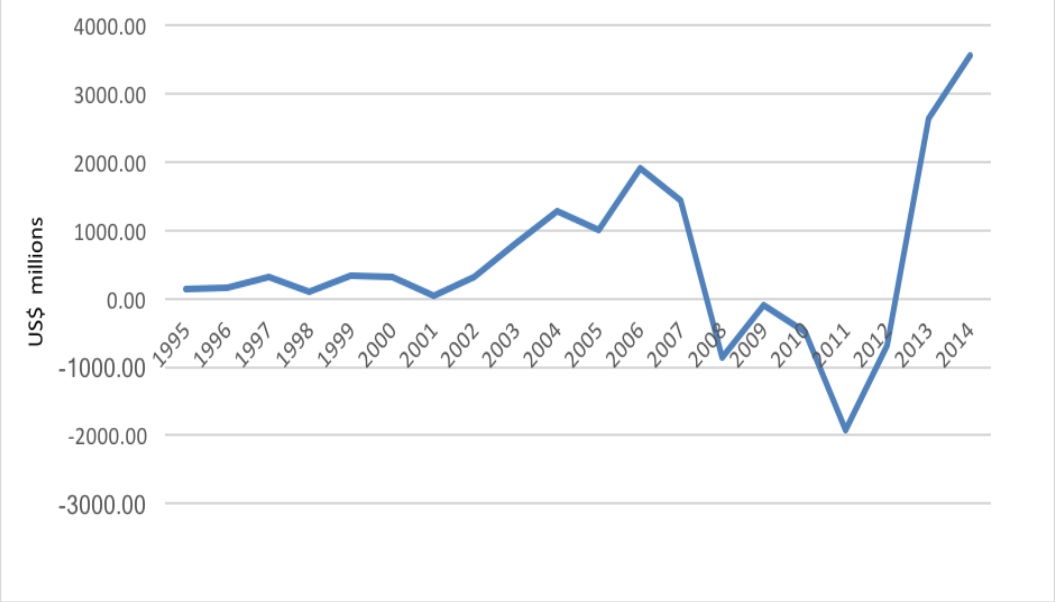
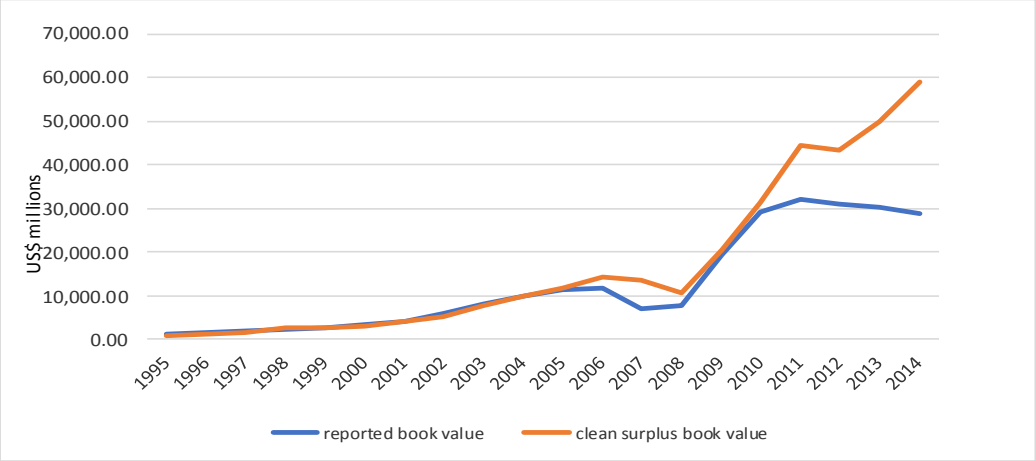


Figure 5.3. 41: Public Administration firms– Other Comprehensive Income and Accumulated Other Comprehensive Income

OCI appears to be reversed in the period after GFC, showing that the accumulated amount of OCI was usually positive in the later years in the period. The OCI dropped from about US$0.8 billion to negative US$1.9 billion in 2008, and from US$1.5 billion to negative US$1.2 billion in 2011.

The adjustments in OCI were reflected in the pattern of reported book value and clean surplus book value (see Figure 5.3.43). The overall result was that public administration was the only industry in which reported book values were consistently greater than the book values that would be expected based on income statements reflecting clean surplus principles.

Unlogged data



Logged data

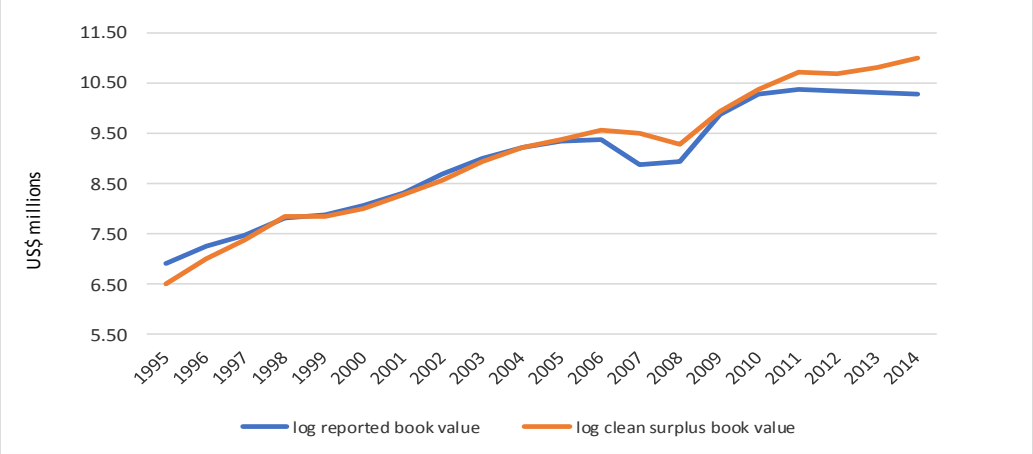


Figure 5.3. 42: Public Administration firms– Comparison of reported book value and clean surplus book value

The path of the ratio of reported book value to clean surplus book value (see Figure 5.3.44) remained above the expected value 1 from 1995 to 2005. This means that book value is reported higher than clean surplus book value in this period. However, the ratio declined from about 1 to 0.50 in the last five years of the period. This ratio clearly shows the effect of the economic event in 2008.

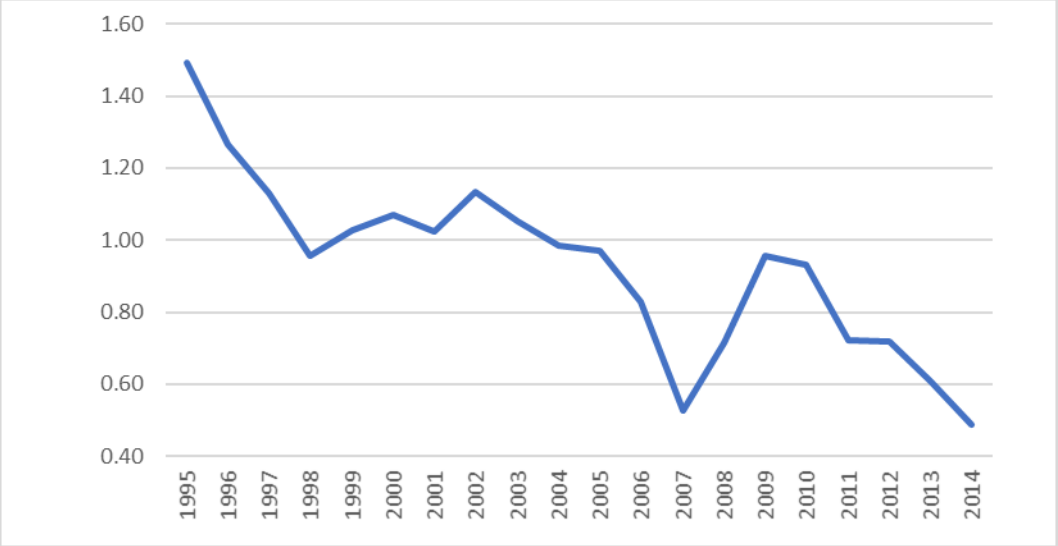


Figure 5.3. 43: Public Administration firms – Ratio of reported book value to clean surplus book value

5.4 Behaviour of OCI by Individual Companies

5.4.1: Analysis of ConocoPhillips (SIC 1311)

ConocoPhillips is the world's largest independent exploration and production (E&P) company based on proved reserves and production of liquids and natural gas. **Source**: http://www.conocophillips.com.au/

ConocoPhillips illustrates some of the characteristics of the earnings and other comprehensive income dichotomy in the mining industry that may provide insight into the behaviour of these variables over time and into whether their patterns reflect underlying economic conditions or are affected by accounting policy choice.

Figures 5.4.1 provide the sequence plot of the ConocoPhillips earnings. The behaviour of earnings is generally positive. In the initial years, earnings of ConocoPhillips were less than in later years. Earnings dipped to negative US$1.5

billion in 2008 and were positive in the year immediately following.

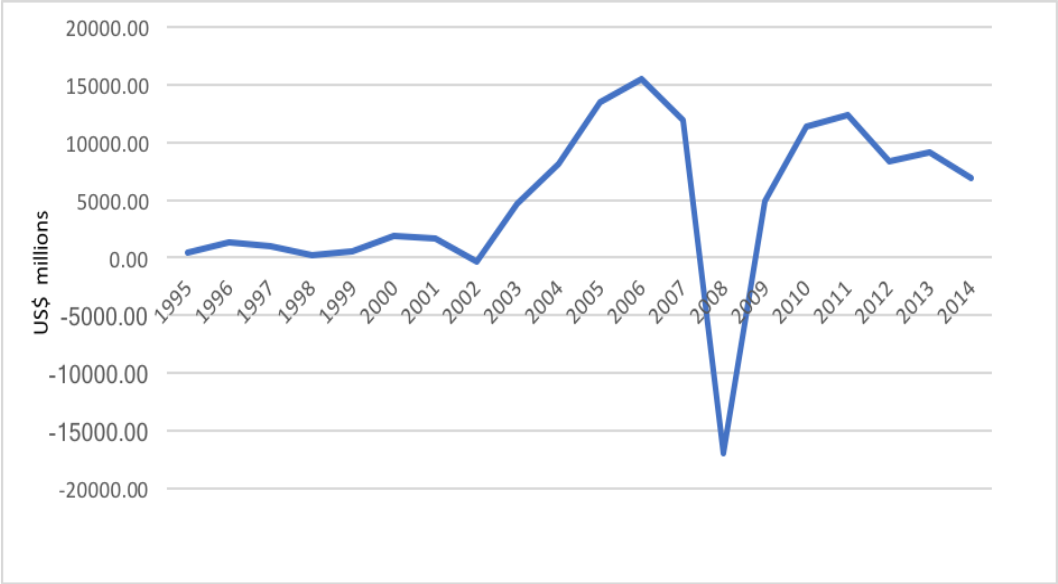
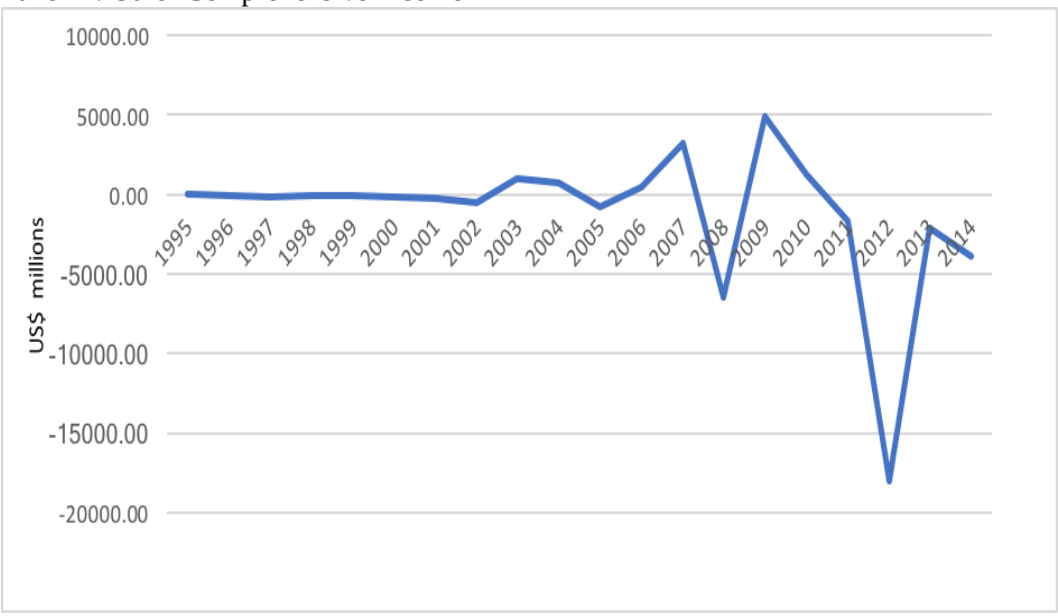


Figure 5.4.1: ConocoPhillips – Earnings

The behaviour of OCI and AOCI (Figure 5.4.2.) shows largest losses were reported in OCI.

OCI becomes very negative after 2009 and AOCI also becomes large and negative. However, the observed precipitous decline of AOCI is not reflected in the reported AOCI of ConocoPhillips.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

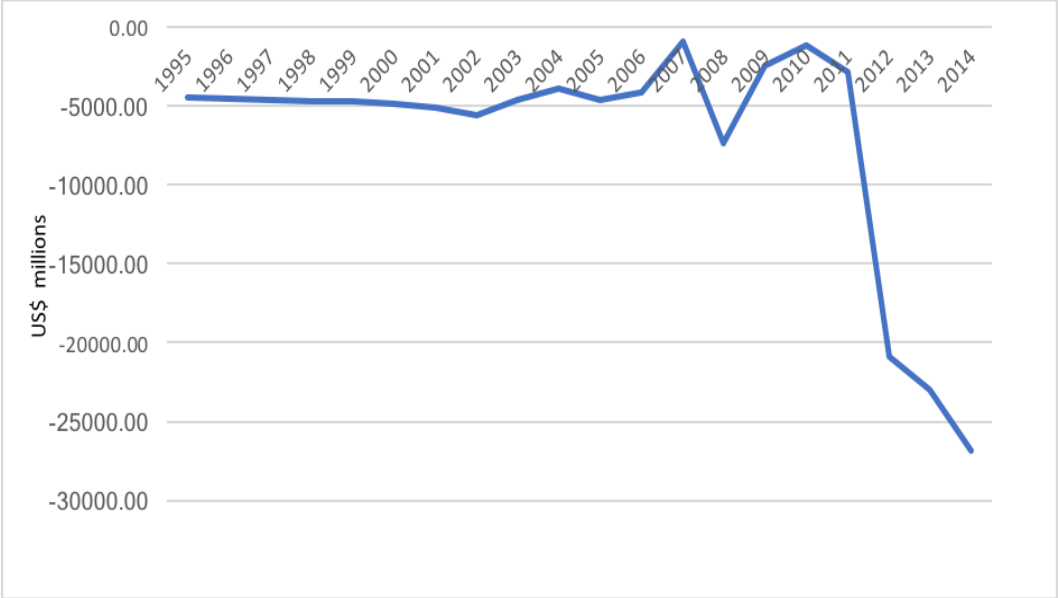


Figure 5.4.2: ConocoPhillips – Other Comprehensive Income and Accumulated Other Comprehensive Income

This behaviour of OCI is reflected in the pattern of reported book value and clean surplus book value (Figure 5.4.3). The AOCI increased from negative US$2.8 billion to about negative US$26 billion in 2014, which caused reported book value to be approximately 35 per cent less than clean surplus book value in the final year.

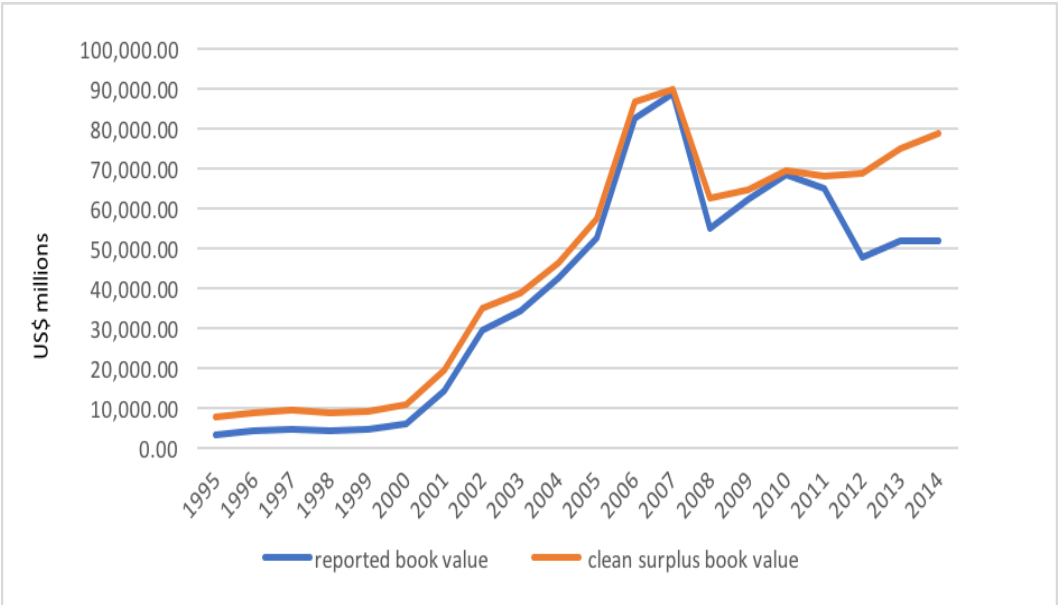


Figure 5.4.3: ConocoPhillips – Comparison of reported book value and clean surplus book value

Figure 5.4.4 shows the average ratio of reported book value to clean surplus book value for ConocoPhillips. The ratio was about 0.40 in the initial year, and this gradually increased to the expected value of 1 in 2007. There is a noticeable correction in the pattern of the two book values during the GFC. After 2011, earnings quality of ConocoPhillips is judged to decline.

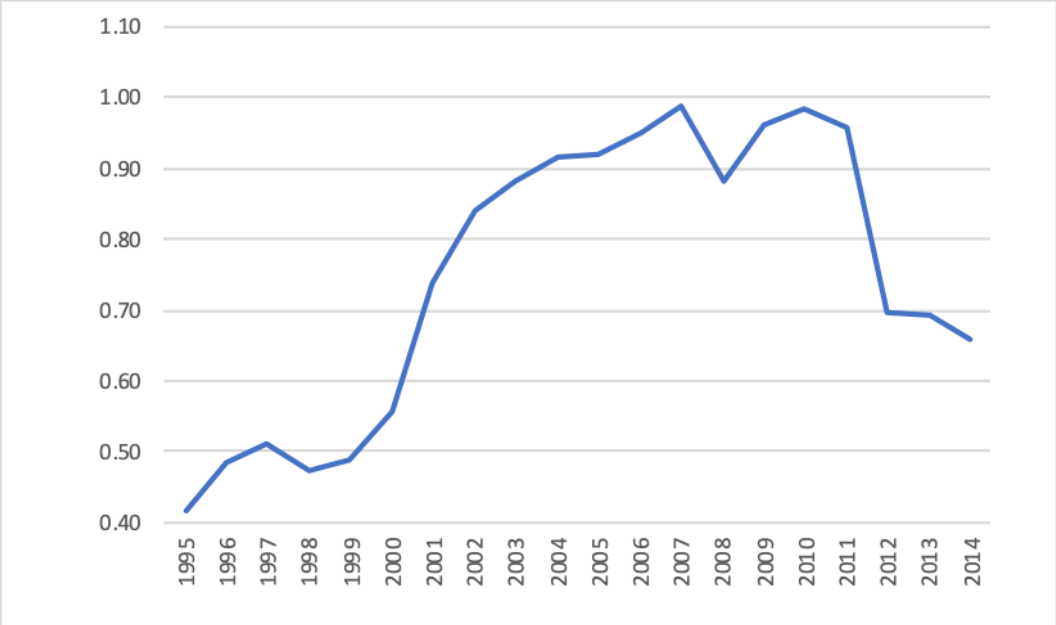


Figure 5.4.4: ConocoPhillips – Ratio of reported book value to clean surplus book value

Table 5.4.1 shows four different types of adjustment in the OCI account for this firm between 2006 and 2014. These adjustments are for defined benefit schemes, foreign currency translation, hedging activities and unrealised fair value changes in some securities. Only the first two are material. Both are negative and just over US$1 billion in total over the period 2006–2014. However, some of the years report positive movements; therefore, there is no clear evidence of the amounts accumulating inevitably to a large negative amount. The small amount of US$158 million shown for unrealised holding gains on securities in 2010 and 2011 clearly reverses.

Table 5.4.1: ConocoPhillips – other comprehensive income statement 2006–2014

Year to 31 December	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**
Other comprehensive income/(loss):									
Defined benefit plans:									
Prior service credit (cost) arising during the period	-3	1	2	19	-13				
Reclassification adjustment for amortisation of prior service credit included in net income	-6	-5	-5	2	15	21			
Net change	-9	-4	-3	21	2	21			
Net actuarial gain (loss) arising during the period	-840	688	-704	-1185	-9	-388			
Reclassification adjustment for amortisation of net actuarial losses included in net income	131	294	430	226	215	206			
Net change	-709	982	-274	-959	206	-182			
Non-sponsored plans		10	8	-50	5	39	-41	-2	
Net prior service cost							22	63	
Net gain/loss							-950	213	
Income taxes on defined benefit plans	281	-387	132	375	-67	52			
Defined benefit plans, net of tax	**-437**	**601**	**-137**	**-613**	**146**	**-70**	**-969**	**274**	**33**
Foreign currency translation adjustments	-3539	-2705	929	-387	1417	5092	-5464	3075	
Reclassification adjustment for gain included in net income		-4	-155	-516					
Income taxes on foreign currency translation adjustments	72	23	-16	-14	-13	-85			
Foreign currency translation adjustments, net of tax	**-3467**	**-2686**	**758**	**-917**	**1404**	**5007**	**-5464**	**3075**	**1013**
Hedging activities			6	1		-2	-2	-4	4
Income taxes on hedging activities						5			
Hedging activities, net of tax			**6**	**1**		**3**	**-2**	**-4**	**4**
Unrealised holding gains on securities				8	631				
Reclassification adjustment for gain included in net income				-255	-384				
Income taxes on unrealised holding gain on securities				89	-89				
Unrealised gain on securities, net of tax				**-158**	**158**				
Comprehensive income 16,600 Initial application of SFAS No. 158								**-74**	**-575**
Other comprehensive income/(loss)	-3904	-2085	627	-1687	1708	4940	-6435	3271	475
Other comprehensive income/(loss) b/f	1628	3713	3086	4773	3065	-1875	4560	1289	814
Other comprehensive income/(loss) c/f	-2276	1628	3713	3086	4773	3065	-1875	4560	1289

Source: ConocoPhillips Annual Reports 2008, 2011, 2014; http://www.annualreports.com/Company/motorola-solutions-in

The amounts for OCI shown in Table 5.4.2 are different from those calculated using the formula in Table 4.3.1, which calculates the latter variable as the change in reported retained earnings less earnings plus dividends. This calculation is likely to omit various small adjustments in the estimation of OCI (e.g., adjustments for certain types of dividends and treasury stock repurchases); therefore, it is necessary to consider if differences between reported OCI and OCI as calculated here are attributable to these kinds of omissions.

Table 5.4.2: ConocoPhillips – differences in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year ended	OCI Calculated US$m	OCI Reported US$m	Difference US$m	Statements
2006	476	475	1	Other
2007	3259	3271	-12	Other
2008	-6451	-6453	2	Other
2009	4930	4940	-10	Other
2010	1264	1708	-444	See Note 1 below
2011	-1694	-1687	-7	Other
2012	-18005	841	-18,846	See Note 2 below
2013	-2085	-2085	0	
2014	-3904	-3904	0	

Working note 1 (amount in millions)

Distributed under defined benefit plans reported under Capital at par	US$451
Unidentified difference	US$ -7
As above	**US$444**

Working note 2

Separation of downstream business reported as a deduction from reported book value	US$-18,880
'Other' reported in retained earnings	US$ 19
Unidentified difference	US$ 15
	US$18,846

Working note 2 (Cont.): Details of the separation of downstream business

Discontinued Operations Separation of Downstream Business on April 30, 2012, the separation of our Downstream business was completed, creating two independent energy companies: ConocoPhillips and Phillips 66. In connection with the separation, Phillips 66 distributed approximately $7.8 billion to us in a special cash distribution. The principal funds from the special cash distribution were designated solely to pay dividends, repurchase common stock, repay debt, or a combination of the foregoing, within twelve months following the distribution. At December 31, 2012, the remaining balance of the cash distribution was $748 million and was included in the 'Restricted cash' line on our consolidated balance sheet. No balance remained from the cash distribution as of December 31, 2013. We also entered several agreements with Phillips 66 in order to affect the separation and govern our relationship with Phillips 66. Sales and other operating revenues and income from discontinued operations related to Phillips 66 during 2012 and 2011 were as follows: Millions of Dollars 2012 2011 Sales and other operating revenues from discontinued operations $ 62,109 196,068 Income from discontinued operations before-tax $ 1,768 6,776 Income tax expense 534 1,729 Income from discontinued operations $ 1,234 5,047 Income from discontinued operations after-tax includes transaction, information systems and other costs incurred to effect the separation of $70 million and $17 million for the years ended December 31, 2012, and 2011, respectively. No separation costs were incurred in 2013. Prior to the separation, commodity sales to Phillips 66 were $4,973 million and $15,822 million for the years ended December 31, 2012, and 2011, respectively. Commodity purchases from Phillips 66 prior to the separation were $166 million and $516 million for the years ended December 31, 2012, and 2011, respectively. Prior to May 1, 2012, commodity sales and related costs were eliminated in consolidation between ConocoPhillips and Phillips 66. Beginning May 1, 2012, these revenues and costs represent third-party transactions with Phillips 66.

Source: ConocoPhillips annual report 2013 p. 89
http://www.annualreports.com/Company/conocophillips

In the case of ConocoPhillips, the major difference between the size of the negative calculated OCI and that of reported OCI is that a very large write-off relating to 'discontinued operations' was not reflected at all in comprehensive income. The omission of this very large write down from comprehensive income had a very significant effect on the firm's pattern of income over time and gives a greatly unrealistic picture of its long-term performance. A possibly more revealing illustration of losses being hidden from the income statement is contained in the 2012 financial statement of ConocoPhillips in the Mining SIC[2].

A positive net income of just over US$1 billion was attributed to discontinued operations in 2012 in the income statement. However, a write down of over US$18.8 billion was attributed to discontinued operations directly in retained earnings (see appendix Table 1.I, Panel B).

[2] How ConocoPhillips presented the information about the divestment in its downstream businesses to Phillips in their Income Statement (Panel A) and in their Statement of Changes in Equity in 2012 (Panel B) are presented in Appendix Table 1.I.

This amount was not reported in the statement of comprehensive income; consequently, the company reported a positive comprehensive income. If this amount, which must reflect previously overoptimistic valuations relating to the divested business, had been included in the statement of comprehensive income then a very large comprehensive loss would have been reported.

Either the financial press was not interested in the finer points of the effect of the write-off of previously optimistic valuations on shareholder value, or it did not identify or understand the significance of the way the reductions in retained earnings from discontinued operations altered the calculation of income. A report on the fourth quarter earnings of ConocoPhillips noted drop-in earnings, but there was no mention of the large write down directly to retained earnings.

5.4.2 Analysis of Duke Energy (SIC 4911)

Duke Energy is one of the largest electric power holding companies in the United States providing electricity to 7.7 million retail customers. They are transforming their customers' experience modernizing their energy gird, generating cleaner energy and expanding their nature gas infrastructure to create a smarter energy future for their customer.
https://www.duke-energy.com/home

Figure 5.4.5 shows the time sequence of Duke Energy's earnings from 1995 to 2014. The earnings appear to increase over time. However, there is a noticeable adjustment in earnings in 2003, which is due to a write-off attributed to continuous operation of about US$1 billion and discontinuous operation of US$158 million affecting the pattern of earnings in this period.

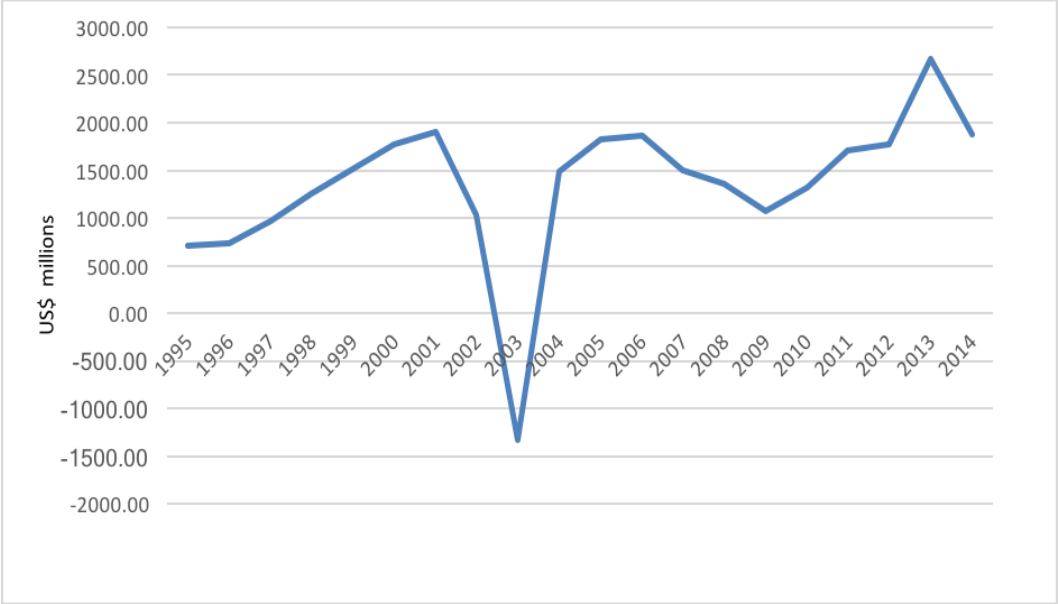
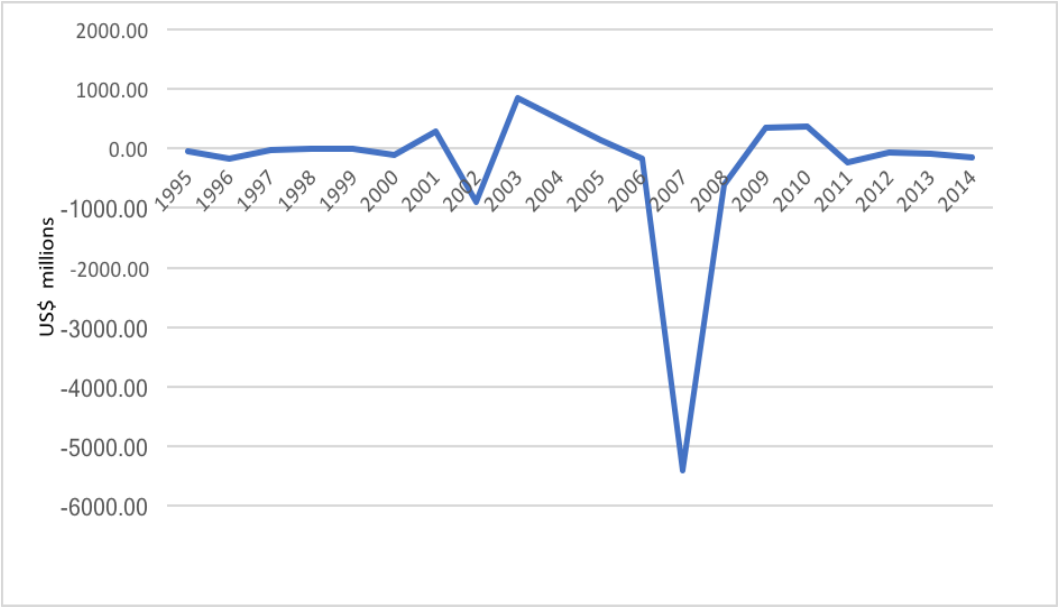


Figure 5.4.5: Duke Energy – Earnings

Calculated OCI (Panel A, Figure 5.4.6) experienced a sharp drop in 2007, followed by a sharp increase in 2008, indicative of the market volatility existing during the global financial crises. This pattern of OCI is reflected in other transport firms.

The more revealing illustration is the inclusion of the distribution of Spectra Energy to shareholders, with about US$4 billion attributed to discontinued operation in 2007 in calculated OCI. However, this amount is not reflected anywhere in reported OCI and it bypasses the income statement and is directly reported into retained earnings. This had a significant effect on the pattern of Duke Energy's OCI and AOCI in 2007 (Panels A and B, Figure 5.4.6). The pattern of OCI for Duke Energy shows less volatility in the later years of the period (2004 onwards), which is different to the pattern observed in some other firms (e.g., Motorola).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

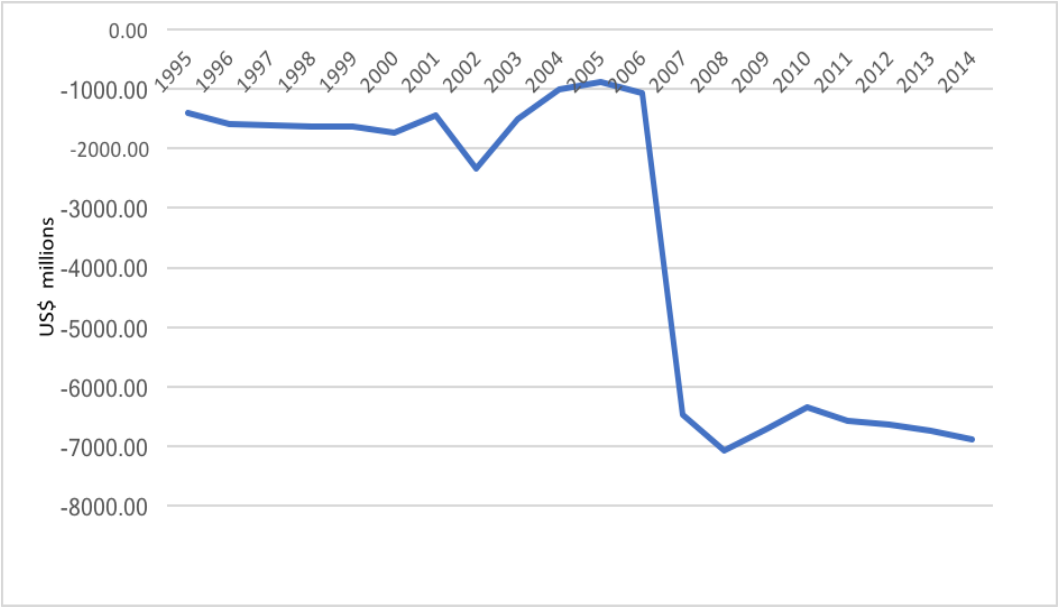


Figure 5.4.6: Duke Energy – Other Comprehensive Income and Accumulated Other Comprehensive Income

Calculated OCI generally remains close to zero in the later years, which does not lead to a deviation of clean surplus book value from reported book value (Panel A, Figure 5.4.7).

However, the effect of the distribution of Spectra Energy to shareholders in 2007 is noticeable in the pattern of reported and clean surplus book value (Figure

5.4.7). The reported book value dropped from US$26 billion to US$21 billion in 2007 and was 20% less than clean surplus book value.

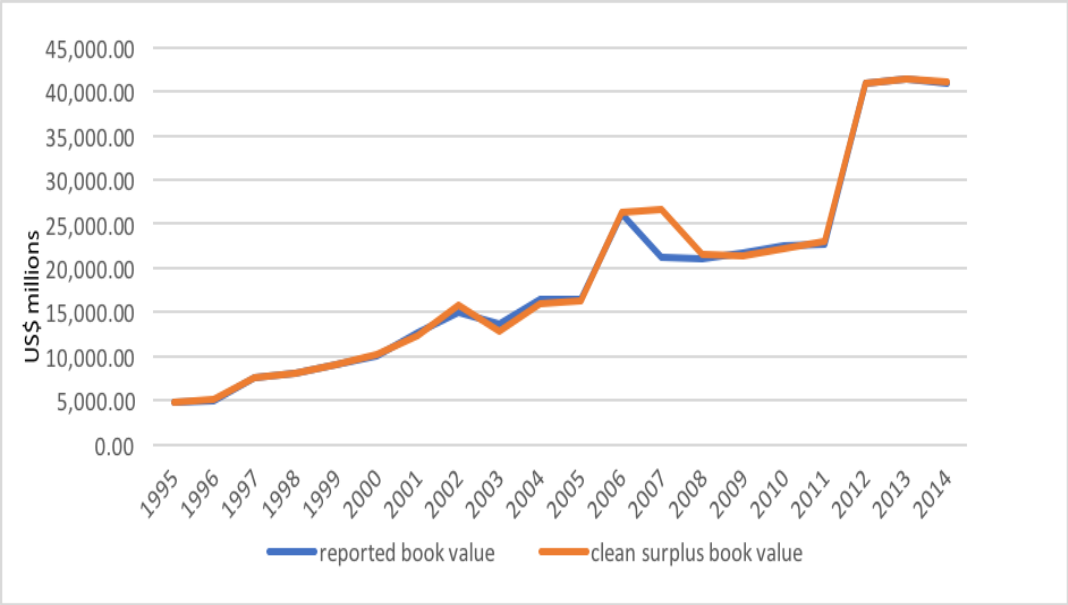


Figure 5.4.7: Duke Energy – Comparison of reported book value and clean surplus book value

Figure 5.4.8 shows the ratio of reported book value to clean surplus book value of Duke Energy over time. The average ratio remained close to 1, except for a noticeable adjustment in 2007. Earnings quality is arbitrated higher, particularly after 2011.

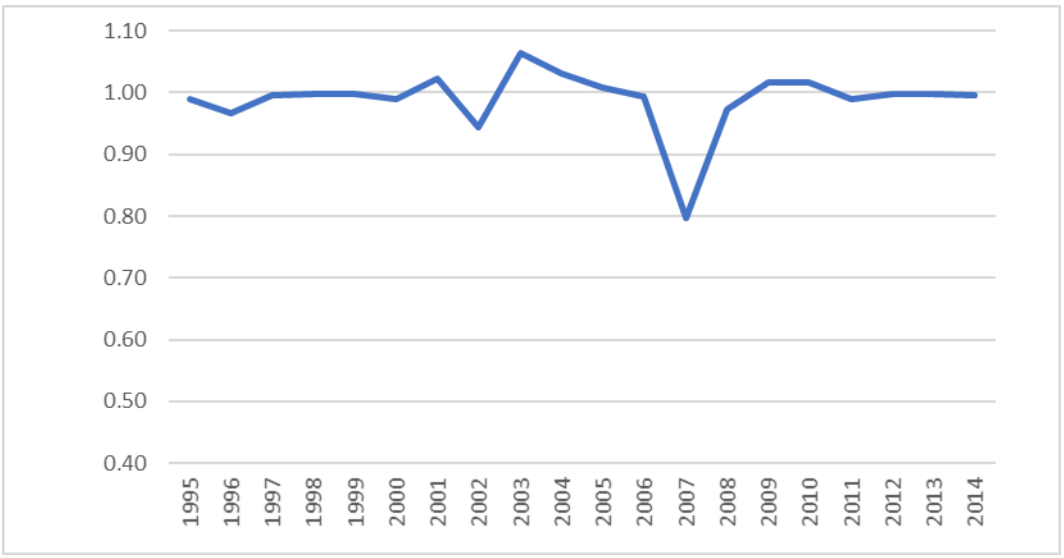


Figure 5.4.8: Duke Energy – Ratio of reported book value to clean surplus book value

Table 5.4.3 shows four different types of adjustments in the OCI account of Duke Energy between 2006 and 2014. The size of foreign currency gains and losses of Duke Energy is the largest portion of OCI when compared with other components of OCI in recent years (e.g., pension benefits plan and unrealised gains and losses on securities). The significant foreign currency losses were reported in 2007, 2008, 2011 and 2013. The accumulated size of foreign currency losses of US$1.039 billion contributed to OCI of Duke Energy over time. The next adjustment in OCI for Duke Energy is attributed to pension benefits plan, which includes SFAS No. 158 funded status provision, SFAS No. 158 amortisation, SFAS No. 158 net actuarial gains and losses, and the distribution of Spectra Energy to shareholders (FASB, 2006).

Table 5.4.3: Duke Energy: Other comprehensive income statement from 2006-2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Defined benefit plans:									
Pension and OPEB Related Adjustments to AOCI:	4	38	19	-49	276	36	3		
SFAS No. 158 funded status provision									-311
SFAS No. 158 amortisation								14	
SFAS No. 158 net actuarial gain/loss						-21	-280	96	
Adoption of SFAS No. 158—measurement date provision								-22	
Tax benefits								1	
Distribution of Spectra Energy to shareholders								148	
Minimum Pension Liability Adjustment:									
Distribution of Spectra Energy to shareholders									-1
SFAS No. 158 funded status provision									61
Defined benefit plans, net of tax	**4**	**38**	**19**	**-49**	**276**	**15**	**-277**	**237**	**-251**
Distribution of Spectra Energy to shareholders								-1156	
Foreign currency translation adjustments	-124	-197	-75	-142	80	323	-299	200	103
Foreign currency translation adjustments, net of tax	**124**	**-197**	**-75**	**-142**	**80**	**323**	**-299**	**-956**	**103**
Distribution of Spectra Energy to shareholders								6	
Net unrealised (losses) gains on cash flow hedges(b)	-26	59	-28	-57	1	1	10	-14	6
Reclassification into earnings from cash flow hedges	7	1	-1	4	3	18	3	-1	36
Hedging activities, net of tax	**-19**	**60**	**-29**	**-53**	**4**	**19**	**13**	**-9**	**42**
Unrealised loss on investments in auction rate securities				8	14	-6	-28		
Unrealised gains (losses) on investments in available-for-sale securities	3	-4	14	4		8	-10		
available-for-sale securities into earnings(i)						-5	8		
Reclassification into earnings from available-for-sale securities		4	-5	-4					
Unrealised gain/loss on securities, net of tax	**3**	**0**	**9**	**8**	**14**	**-3**	**-30**	**0**	**0**
Net of zero tax expense in 2007 and $9 tax benefit in 2006.									-15
Other comprehensive income/(loss)	**-136**	**-99**	**-76**	**-236**	**374**	**354**	**-593**	**-728**	**-121**
Other comprehensive income/(loss) b/f	-409	-310	-234	2	-372	-726	-133	595	716
									595
Other comprehensive income/(loss) c/f	-297	-409	-310	-234	2	-372	-726	-133	

Source: Duke Energy's Annual Reports 2008, 2011, 2014http://www.annualreports.com/Company/duke-energy-corporation

The pension benefit plan adjustments contributed positively the total amount of US$12 million into Duke Energy's OCI over nine years. Unrealised gains and losses on hedging activities and securities usually reversed out in the subsequent period (as per Table 5.3.9).

The major difference between the size of calculated OCI and AOCI reported (Table 5.4.4) gives the impression that the distribution of Spectra Energy to shareholders of US$4.5 billion in 2007 is attributed to discontinuous operation and are not reflected anywhere in comprehensive income. However, the distribution of Spectra Energy to shareholders show an adjustment of US$1 million reflected in reported OCI in 2006 (as per Table 5.4.4). The omission of about US$4.5 billion from comprehensive income as a write-off of discontinuous operations bypasses the income statement and is directly reported into retained earnings, which is similar to some other firms (e.g., ConocoPhillips). If this amount had been included in the statement of comprehensive income, then a net loss of about US$3 billion would have been reported[3].

[3] How Duke Energy presented the financial information about the Distribution of Spectra Energy to shareholders in their Income Statement and in their Statement of Changes in Equity in 2007 is illustrated in Appendix Table 4 (Panels A and B).

Table 5.4.4: Duke Energy – difference in calculated other comprehensive income (OCI) and reported OCI

Year ended	OCI calculated US$m	OCI reported US$m	Difference US$m	Description in financial statement US$m
December 31, 2006	-179.00	-121.00	-58	Unidentifiable
December 31, 2007	-5393.00	-728.00	-4665	See below working note 1
December 31, 2008	-603.00	-593.00	-10	See below working note 2
December 31, 2009	354.00	354.00	0	
December 31, 2010	374.00	374.00	0	
December 31, 2011	-236.00	-236.00	0	
December 31, 2012	-72.00	-72.00	0	
December 31, 2013	-96.00	-93.00	-3	See below working note 3
December 31, 2014	-144.00	-144.00	0	

Working note. 1

OCI items bypass the income statement and directly reported into retained earnings:

Distribution of Spectra Energy to shareholders attributed to the discontinuous operation	-$4612.00
Effect of adoption of FIN 48	-$25
Effect of adoption of SFAS NO 158	-$28
Total	**-4665.00**

Working note. 2

Additional amounts related to the spin-off of Spectra Energy bypass the income statement and directly reported into retained earnings	-$10

Working note 3

The premium on the redemption of the preferred stock of subsidiaries	-$3

Working Note 1 (Cont.)

13. Discontinued Operation

Income(loss) from discontinued operations was income of approximately $12 million and $16 million for 2009 and 2008, respectively, and a loss of approximately, $22 million for 2007. Significant transactions occurring during the years ended December 31, 2008 and 2007 that resulted in discounted operations presentation are discussed below.

Year Ended December 31, 2008

Commercial power

In February 2008, Duke Energy entered into an agreement to sell its 480 MW natural gas- fired peaking generating station located near Brownsville, Tennessee Valley Authority for approximately $55 million. This transaction closed in April 2008 and resulted in Duke Energy recognizing an approximate $23 million pre-tax gain at closing.

Year Ended December 31, 2007

Commercial power

Due to the expiration of certain tax credits., Duke Energy ceased all **synthetic fuel (Synfuel) Operations** as of December 31, 2007. Accordingly, the results of operations for synfuel were reclassified to discontinued operations. For the year ended December 31, 2007. synfuel operations had after-tax earnings of approximately $23 million, which include tax benefits of approximately $84 million.

International Energy

In February 2007, International Energy finalized the approximate $20 million sale of it 50% ownership interest in two hydroelectric power plants near Cochabamba, Bolivia to Energy International Energy recorded an impairment charge in 2006 related to certain assets in Bolivia in connection with the sale. As a result of the sale, International Energy no longer has any assets in Bolivia.

(Duke Energy, 2009, P.113) direct quote

https://www.sec.gov/Archives/edgar/data/1326160/000119312510043083/d10k.htm

5.4.3 Analysis of Motorola Solutions (SIC 5045)

Motorola Solutions is a global communications leader powered by a passion to invent and an unceasing commitment to advance the way the world connects. Their communication solutions allow people, businesses and governments to be more connected and more mobile (Motorola Solutions, 2012).

Figure 5.4.9 shows the time sequences of earnings of Motorola Solutions from 1995 to 2014. Generally, Motorola's earnings are reported as positive. However, it is not as high as reported in some other firms (e.g., Tejon Ranch). There are noticeable adjustments in earnings during the two financial crises.

For instance, Motorola's earnings dropped to negative US$4 billion in 2001 and 2002 and again in 2008 and 2009.

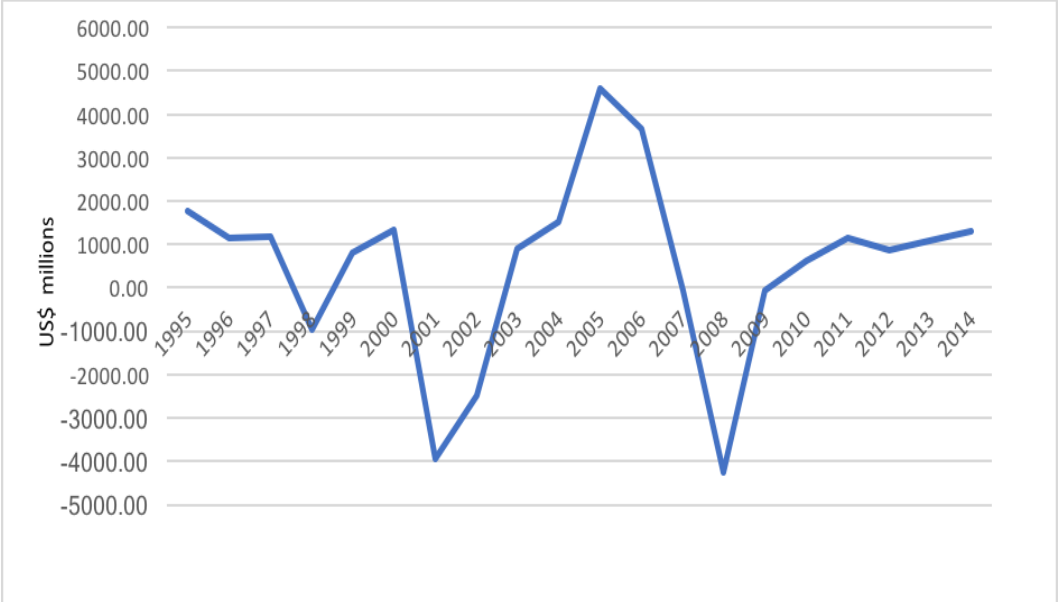


Figure 5.4.9: Motorola Solutions – Earnings

Figure 5.4.10 displays sequence plots of OCI (Panel A) and AOCI (Panel B) over the study period. OCI is generally reported to become increasingly negative and not reversed fully; the accumulated size of OCI is very large by 2014. However, Motorola's apparent downward trend of calculated OCI is not reflected in the reported OCI after 2011.

Panel A: Other Comprehensive Income

Panel B: Accumulated Other Comprehensive Income

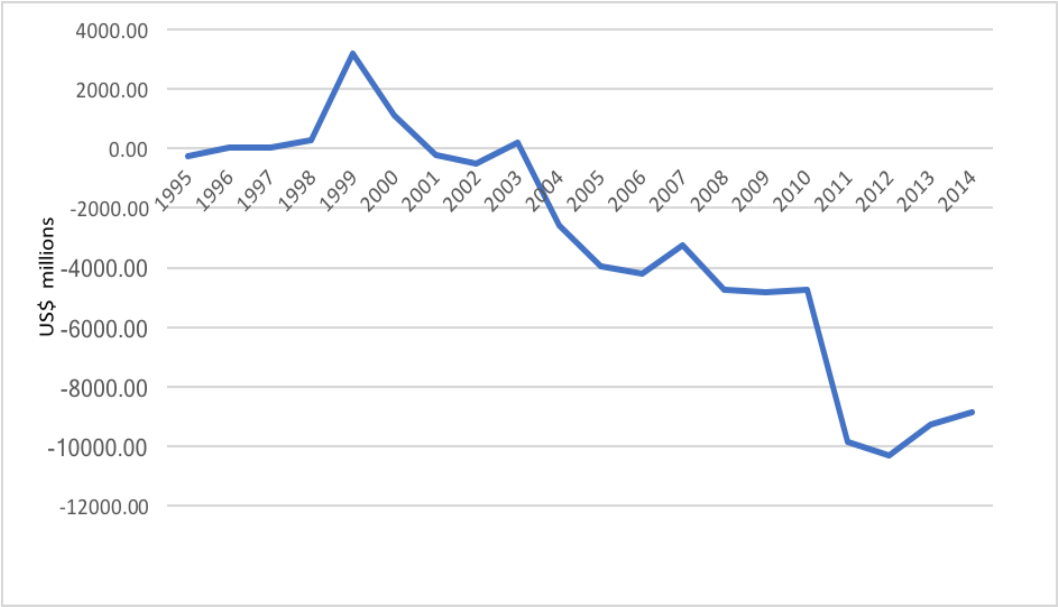


Figure 5.4. 10: Motorola Solutions – Other Comprehensive Income and Accumulated Other Comprehensive Income

Figure 5.4.11 shows more separation between reported and clean surplus book value, which is similar to the manufacturing industry as a whole. However, book value is reported higher than the clean surplus in some years; the accumulated amount of OCI is positive during this period. After 2011, book value is reported noticeably lower (up to 60% less) than book value expected from the income statement (i.e., assuming clean surplus principles).

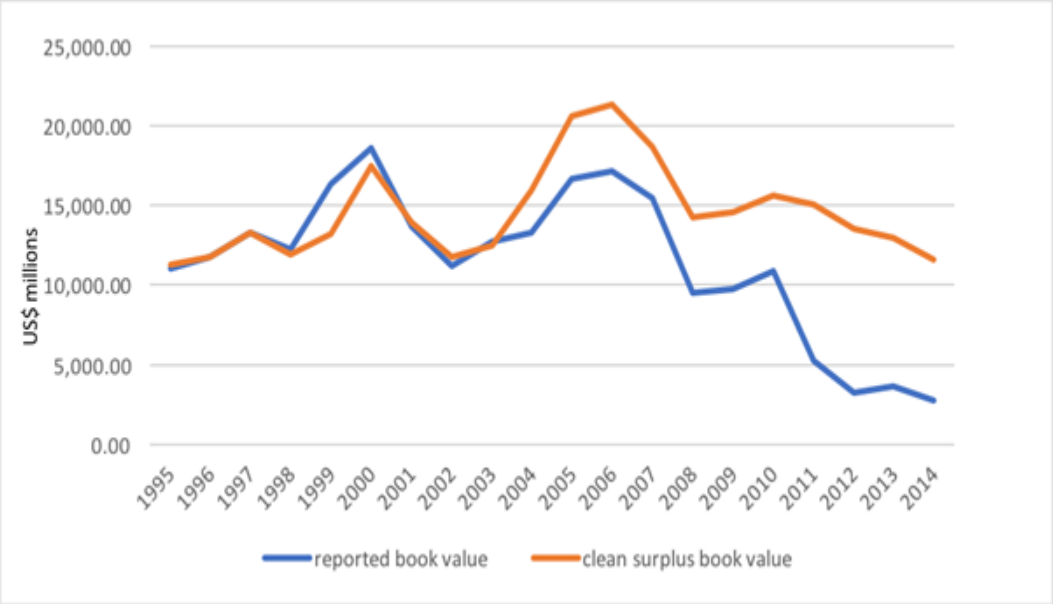


Figure 5.4. 11: Motorola Solutions – Comparison of reported book value and clean surplus book value

Figure 5.4.12 shows the ratio of reported book value to clean surplus book value for Motorola Solutions. The ratio dropped from 0.80 to around 0.20 in 2014, indicating that earnings quality is considerably lower in the later years of the period. Further analysis of Motorola Solutions indicates that the losses are larger after 2011 and a write down of over US$4 billion in 2011 was attributed to discontinued operations directly reported in retained earnings. However, US$40 million gains were reported in the statement of operation. The omission of this large write down from anywhere in comprehensive income affects earnings quality and did not reversing over time.

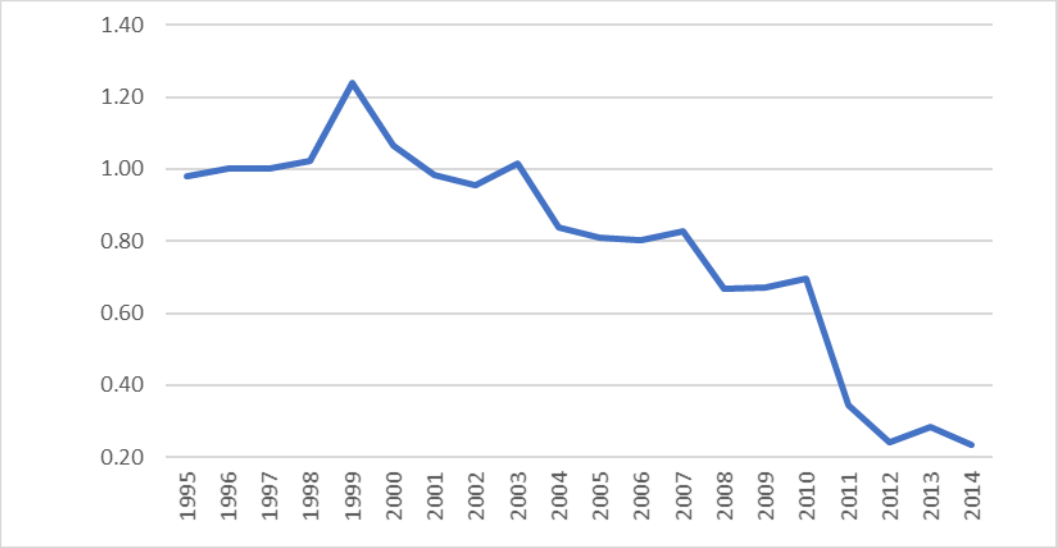


Figure 5.4.12: Motorola Solutions – Ratio of reported book value to clean surplus book value

Table 5.4.5 shows five different types of adjustments in the statement of OCI of Motorola from 2006 to 2014. The adjustments of foreign currency translation and pension benefit plan losses are material, with accumulated sums of US$107 million and US$443 million, respectively, between 2006 and 2014. The next two adjustments, hedging activities and unrealised gains/losses on securities, negatively contribute US$46 million in OCI account of Motorola. The negative sizes of these two minor adjustments in some years usually reverse out in the subsequent period.

Table 5.4.6 displays a comparison of calculated OCI (calculated as per Table 4.3.1) and reported OCI from 2006 to 2014. The major difference between the sizes of these is in 2011, when the write-off of about US$4 billion relating to ‘discontinued operations’ bypassed the income statement and directly reported into retained earnings.

Table 5.4.5: Motorola Solutions – other comprehensive income statement 2006–2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Defined benefit plans:									
Amortisation of retirement benefits adjustments	44	70	177	132	112	-65	19	62	
Year-end and other retirement adjustments (net of tax)	-365	953	-707	-723	81	-163	-1340	852	
Effect of U.S. pension plan freeze curtailment (net of tax)							-42		
Mid-year remeasurement of retirement benefits, net of tax	-353		87	-77	-28				
Pension settlement adjustment, net of tax	1168								
Accumulated effect — Post-retirement Insurance Plan								-41	
Plan amendment, net of tax					22				
Defined benefit plans, net of tax	**494**	**1023**	**-443**	**-668**	**187**	**-228**	**-1363**	**873**	**-308**
Foreign currency translation adjustments	-49	-4	14	19	-63	70	-149	142	127
Foreign currency translation adjustments, net of tax	**-49**	**-4**	**14**	**19**	**-63**	**70**	**-149**	**142**	**127**
Net gain on derivative hedging instruments, net of tax	1	-2	4	-3	-2	9	-7	-16	14
Hedging activities, net of tax	**1**	**-2**	**4**	**-3**	**-2**	**9**	**-7**	**-16**	**14**
Net unrealised losses on securities	46	-4	1	-2	-58	68	61	-96	-60
Unrealised gain/loss on securities, net of tax	**46**	**-4**	**1**	**-2**	**-58**	**68**	**61**	**-96**	**-60**
Distribution of Motorola Mobility				**0**					
Disposition of the Enterprise business, net of tax	-60								
Other comprehensive income/(loss)	432	1013	-424	-654	64	-81	-1458	903	-227
Other comprehensive income/(loss) b/f	-2287	-3300	-2876	-2222	-2286	-2205	-747	-1650	-1423
Other comprehensive income/(loss) c/f	-1855	-2287	-3300	-2876	-2222	-2286	-2205	-747	-1650

Source: Motorola Annual Reports 2008, 2011, 2014; http://www.annualreports.com/Company/motorola-solutions-inc

However, the US$40 million gains attributed to discontinued operation were reported in the statement of operation (Motorola Solution, 2012). The reporting of some form of gains and losses into two different statements had a very significant effect on Motorola's income pattern over time and gives an unrealistic picture of its long-term performance. The financial performance of Motorola post-2014 was also investigated, and analysis indicates that the firm is struggling to maintain its profit over time[4]. If write-off of about US$4 billion had been included in the statement of comprehensive income, then a large comprehensive loss would have been reported in 2011. Additional analysis was considered to investigate the FASB standard with regard to 'discontinuous period'; however, no evidence was found of FASB permitting companies to report write-off of discontinuous operation directly into retained earnings.

[4] Financial information about the distribution of Motorola Solutions mobility attributed to 'discontinue operation' in their Statement of Changes in Equity and in their Income, Statement is displayed in Appendix 1.

Table 5.4.6: Motorola Solutions – difference in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year	OCI calculated (US$m)	OCI reported (US$m)	Difference US$m	Descriptions in financial statement
December 31, 2006	-227	-227	0	
December 31, 2007	954	944	10	See note 1 below
December 31, 2008	-1503	-1499	-4	See note 2 below
December 31, 2009	-81	-81	0	
December 31, 2010	64	64	0	
December 31, 2011	-5114	-654	-4460	See note 3 below
December 31, 2012	-424	-424	0	
December 31, 2013	1013	1013	0	
December 31, 2014	432	432	0	

Working note 1	
Cumulate effect-FIN 48 bypasses the income statement and directly reported into retained earnings.	$27 million
Effect of non-US pension plan measurement date change bypass the income statement and directly reported into retained earnings	-$17 million
Difference	**$10 million**

Working note 2	
Accumulated effect — post-retirement insurance plan bypass the income statement and reported into retained earnings	**$4**

Source: Motorola's Annual Report 2008 http://www.annualreports.com/Company/motorola-solutions-inc

Working note 3 (Treatment of US$4.4 billion)

In its 2012 Annual Report, Motorola Solutions provided the following information in relation to Discontinued Operations (Motorola Solutions, 2013, pp. 59–60):

On January 1, 2012, the Company completed a series of transactions which resulted in exiting the amateur, marine, and air-band radio businesses. The operating results of the amateur, marine and air-band radio businesses, formerly included as part of the Government segment, are reported as discontinued operations in the consolidated statements of operations for all periods presented. On October 28, 2011, the Company completed the sale of its wireless broadband businesses. During the year ended December 31, 2011, the Company recorded a pre-tax gain related to the sale of the wireless broadband businesses of $40 million, net of closing costs, in its results from discontinued operations. The operating results of the wireless broadband businesses, formerly included as part of the Enterprise segment, are reported as discontinued operations in the statements of operations for all periods presented.

On April 29, 2011, the Company completed the sale of certain assets and liabilities of its Networks business to Nokia Siemens Networks ('NSN'). The results of operations of the portions of the Networks business sold are reported as discontinued operations for all periods presented. Based on the terms and conditions of the Networks business divestiture, the sale was subject to a purchase price adjustment that was contingent upon the review of final assets and liabilities transferred to NSN and were based on the change in net assets from the original agreed upon sale date. During the year ended December 31, 2011, the Company received approximately $1.0 bn of net proceeds and recorded a pre-tax gain related to the completion of this sale of $434 million, net of closing costs, and an agreed upon purchase price adjustment of $120 million in its results from discontinued operations.

On January 4, 2011, the distribution of Motorola Mobility was completed. The stockholders of record as of the close of business on December 21, 2010, received one (1) share of Motorola Mobility common stock for each eight (8) shares of the Company's common stock held as of the record date. Immediately following the distribution, the Company changed its name to Motorola Solutions, Inc.

The distribution was structured to be tax-free to Motorola Solutions and its stockholders for U.S. tax purposes (other than with respect to any cash received in lieu of fractional shares). The historical financial results of Motorola Mobility are reflected in the Company's consolidated financial statements and footnotes as discontinued operations for all periods presented. 60 On May 27, 2010, the Company completed the sale of its Israel-based wireless network operator business formerly included as part of the Government segment. The Company received $170 million in net cash and recorded a gain on sale of the business of $20 million before income taxes, which is included in Earnings from discontinued operations; net of tax, in the Company's consolidated statements of operations.

Table 5.4.7 displays summarised activity in the Company's consolidated statements of operations for discontinued operations during the years ended December 31, 2012, 2011 and 2010.

Table 5.4.7: Motorola Solutions – consolidated statements of operations for discontinued operations

Years ended December 31 (US$ millions)	2012	2011	2010
Net sales	-	1346	15,256
Operating earnings	11	201	601
Gains (loss) on sales of investments and businesses, net	-7	474	20
Earnings before income taxes	8	667	600
Income tax expense	5	256	211
Earnings from discontinued operations, net of tax	3	411	389

Source: Motorola Solutions annual report 2012 page 59-60
http://www.annualreports.com/Company/motorola-solutions-inc

5.4.4 Analysis of Archer Daniels Midland Co (SIC 5191)

Archer Daniels Midland (ADM) is one of the world's largest agricultural processors and food ingredient providers company. ADM connect the harvest to the home, making products for food, animal feed, industrial and energy uses.
Source: https://www.adm.com/

Figure 5.4.13 displays sequence plots of earnings for Archer Daniels over the period 1995–2014. The earnings increased from US$.5 billion to about US$2 billion between 2004 and 2008. There is a slight decline in earnings during the GFC and another noticeable decline in 2012. However, earnings increased to US$2.2 billion in the final three years.

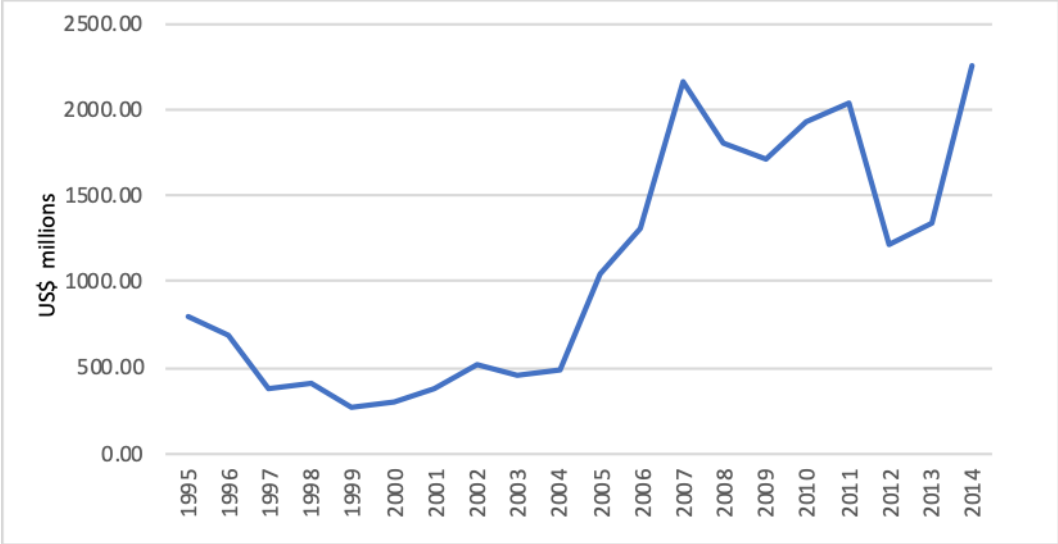
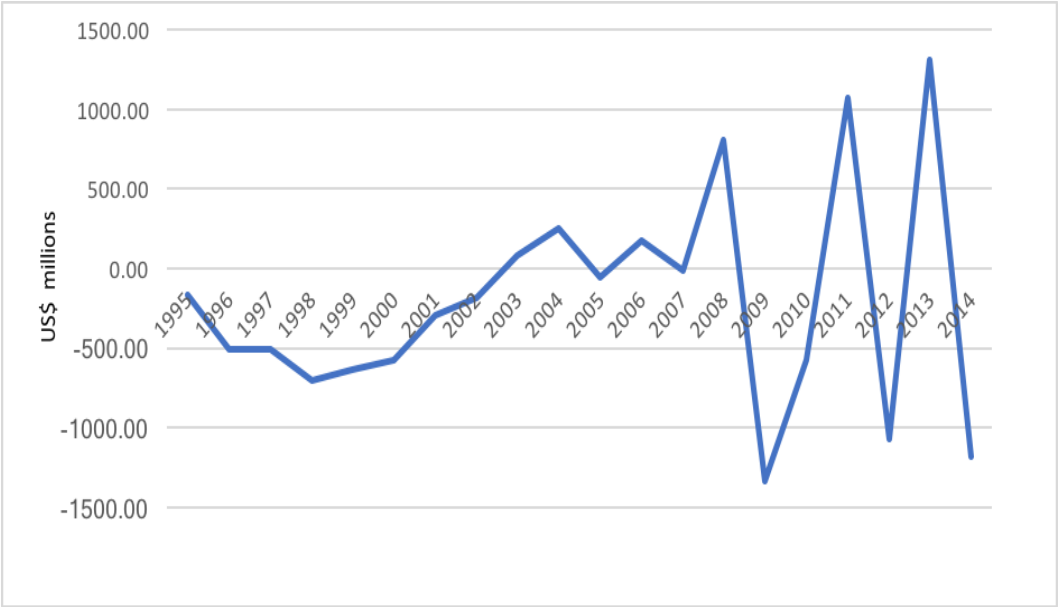


Figure 5.4.13: Archer Daniels – Earnings

The behaviour of Archer Daniels's OCI shows increased volatility in the later years of the period. OCI is negative in 2009, 2010, 2012 and 2014, which reversed out in each subsequent period. The similar downward curve of calculated OCI is reflected in the reported OCI (as per Table 5.4.8), with minor differences for Archer Daniels.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

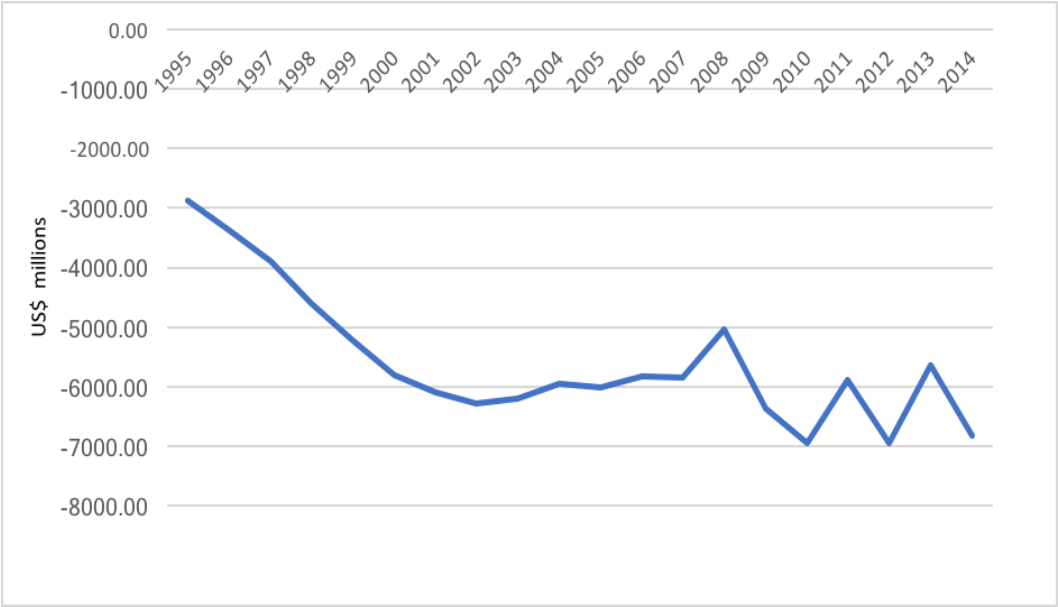
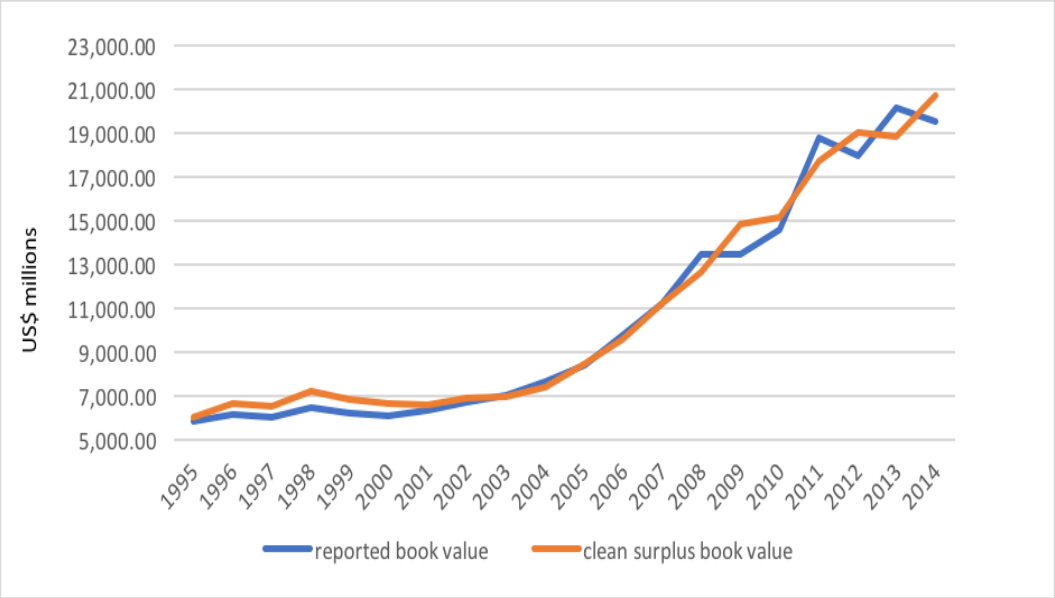


Figure 5.4.14: Archer Daniels – Other Comprehensive Income and Accumulated Other Comprehensive Income

Analysis of Archer Daniels's data indicates that OCI items regularly reversed (reclassified) in the subsequent period, which does not lead to a divergence of reported book value from clean surplus book value (see Figure 5.4.15). The reported book value is much higher than clean surplus book value in some of the later years, which is unlike the observations for some other firms (e.g., Conoco Philips).

Unlogged data



Logged data

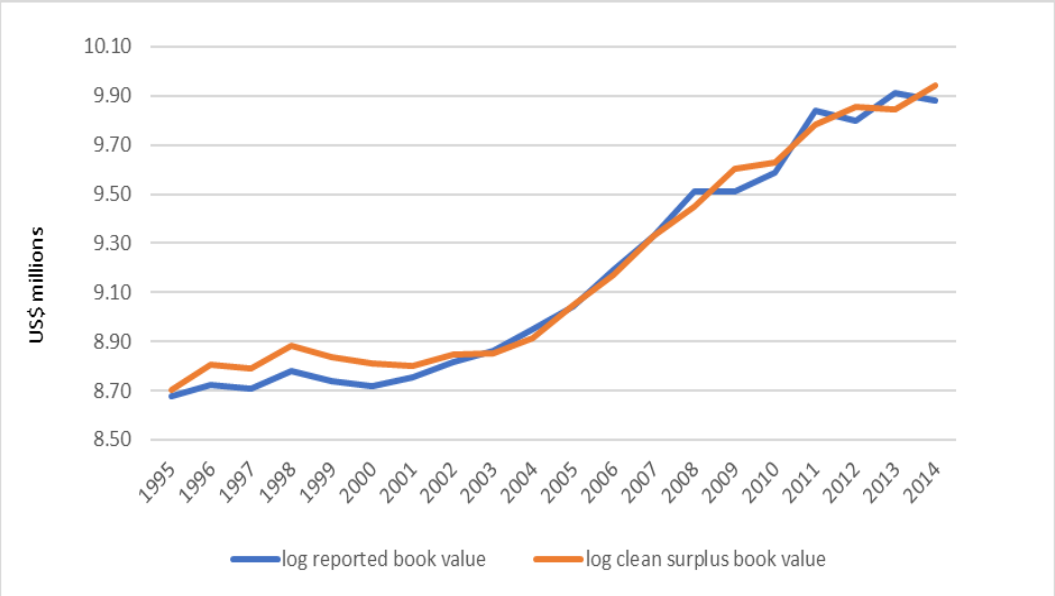


Figure 5.4.15: Archer Daniels – Comparison of reported book value and clean surplus book value

The accumulated amount of OCI (see Panel B, Figure 5.4.14) is highly negative, because OCI losses increase in the initial years. However, there is regular reversal in OCI items after 2011. The ratio of reported book value to clean surplus book value (see Figure 5.4.16) remained close to 1 after 2011, suggesting that book value is reported close to clean surplus book value as expected. Earnings quality of Archer Daniels is judged higher, despite the increased volatility in OCI in the later years.

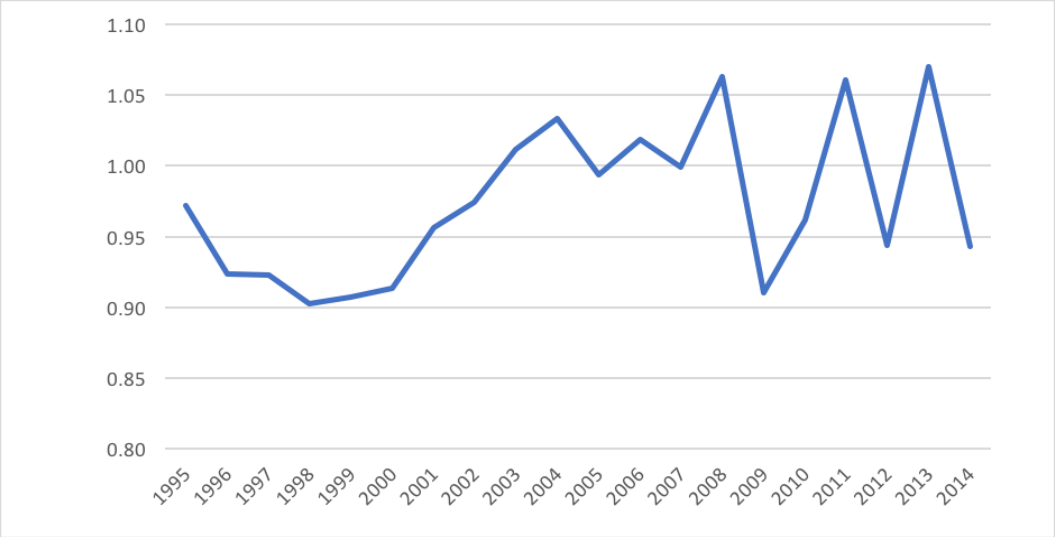


Figure 5.4.16: Archer Daniels – Ratio of reported book value to clean surplus book value

Table 5.4.8 shows four types of adjustments that were made in the OCI account of Archer Daniels. These adjustments were foreign currency translation, pension benefit plan, unrealised gains/losses of securities, and hedging activities over the period 2006–2014. Foreign currency translation and pension benefits plans were material. The negative reported OCI in 2009, 2010, 2012 and 2014 for Archer Daniels is due to very large losses relating to foreign currency translations and pension benefits plans that were reported in this period.

Table 5.4.8: Archer Daniels – other comprehensive income 2006–2014

	Dec-31 2014	Dec-31 2013	Jun-30 2012	Jun-30 2011	Jun-30 2010	Jun-30 2009	Jun-30 2008	Jun-30 2007	Jun-30 2006
Other comprehensive income/(loss):									
Defined benefit plans:									
Unrealised gains (losses):				230	-123	-591	144	-40	212
(Gains) losses reclassified to earnings:				70	41	8			
Pension and other post-retirement benefit liabilities adjustment	-464	411	-565						
SFAS No. 158 transition adjustment:								-330	
Tax effect:	164	-154	202	-106	25	206	-62	140	-78
Defined benefit plans, net of tax	**-300**	**257**	**-363**	**194**	**-57**	**-377**	**82**	**-230**	**134**
Unrealised gains (losses):	**-954**	**125**	**-751**	859	-557	-819	624	312	107
(Gains) losses reclassified to earnings:									
Tax effect:	30	2	60						
Foreign currency translation adjustments, net of tax	**-924**	**127**	**-691**	**859**	**-557**	**-819**	**624**	**312**	**107**
Unrealised gains (losses):				43	46	-24	126	-13	-42
(Gains) losses reclassified to earnings:				-46	24	-126	13	42	-10
Deferred gain (loss) on hedging activities	68	2	36						
Tax effect:	-26	-1	-15	2	-27	47	-43	-11	22
Hedging activities, net of tax	**42**	**1**	**21**	**-1**	**43**	**-103**	**96**	**18**	**-30**
Unrealised gains (losses):				49	37	-26	-4	180	-24
(Gains) losses reclassified to earnings:				-13	6	6	-38	-393	-40
Unrealised gain (loss) on investments	-5	0	-90						
Tax effect:	2	-1	34	-13	-16	7	16	80	30
Unrealised gain/loss on securities, net of tax	**-3**	**-1**	**-56**	**23**	**27**	**-13**	**-26**	**-133**	**-34**
Other comprehensive income/(loss)	**-1,185**	**384**	**-1,089**	**1,075**	**-544**	**-1,312**	**776**	**-33**	**177**
Other comprehensive income/(loss) b/f	-529	-913	176	-899	-355	957	181	214	37
Other comprehensive income/(loss) c/f	-1714	-529	-913	176	-899	-355	957	181	214

Source: Archer Daniels annual report 2008, 2011 and 2014: https://www.adm.com/investors/shareholder-reports

The negative accumulated sizes of these two items of OCI were about $US1.6 billion over the period 2006–2014. The next two adjustments in the OCI account of Archer Daniels related to unrealised gains and losses regarding hedging and securities, which generally reversed out in the subsequent period.

Table 5.4.9 shows the difference between reported OCI and OCI calculated using the formula in Table 4.3.1, over the period 2006–2014. Overall, they are similar, despite some minor differences due to reporting of 'other'[5] in retained earnings instead of accumulated OCI. This indicates that all material OCI items that were expected were reported in the comprehensive income of Archer Daniels[6]. Further analysis of financial statements of Archer Daniels indicates that currency translation losses and pension benefit plans are two OCI items that contribute more to negative behaviour of OCI over time.

[5] Some OCI items bypass the income statement and are directly reported in retained earnings with the name 'Other'. Lack of explanations of these items provided in annual reports of Archer Daniels restricts any deep investigation of these items (see Appendix Table I.2, Panel A).

[6] How Archer Daniels presented the information about the 'Other' in their Statement of Changes in Equity (Panels A and B) and in their Income Statement (Panel C) are displayed in Appendix 1.

Table 5.4.9: Archer Daniels – difference in calculated other comprehensive income and reported other comprehensive income 2006–2014

Year ended	Other comprehensive income calculated	Other comprehensive income reported	Difference	Description in financial statement
In millions	US$m	US$m	US$m	US$m
June 30, 2006	177.00	178.15	-1.15	Unidentified difference
June 30, 2007	-33.00	-13.86	-19.14	Other
June 30, 2008	776.00	802.00	-26.00	Other
June 30, 2009	-1312.00	-1334.00	22.00	Other
June 30, 2010	-544.00	-577.00	33.00	Other
June 30, 2011	1075.00	1073.00	2.00	Other
June 30, 2012	-1083.00	-1073.00	-10.00	See note 1 below
December 31, 2013	384.00	1312.00	-928.00	See note 2 below
December 31, 2014	-1184.00	-1184.00	0.00	

Working note 1:
US$10m Non-controlling interests previously associated with mandatorily redeemable instruments reported in re-vested earnings were not reflected in reported other comprehensive income.

Working note 2:
Difference due to change in fiscal year:
Change in fiscal year on 3 May 2012, the Board of Directors of the Company determined that, in accordance with its Bylaws and upon the recommendation of the Audit Committee, the Company's fiscal year shall begin on 1 January and end on 31 December of each year, starting on 1 January 2013 (source: Archer Daniels Annual report 2013).

5.4.5 Analysis of Home Depot (SIC 5211)

Home Depot is world largest home improvement retailer. In more than 2,200 stores across North America. They aspire to excel in service- to their customers, associates, communities and shareholders.
Source: https://www.homedepot.com/

The earnings behaviour of Home Depot (see Figure 5.4.17) shows a similar trend as that seen in the wholesale trade industry for all firms. Earnings dropped from about US$6 billion to below US$3 billion in 2008. During financial crises, net sales declined from US$77 billion to US$71 billion in 2008, which significantly affected the pattern of earnings.

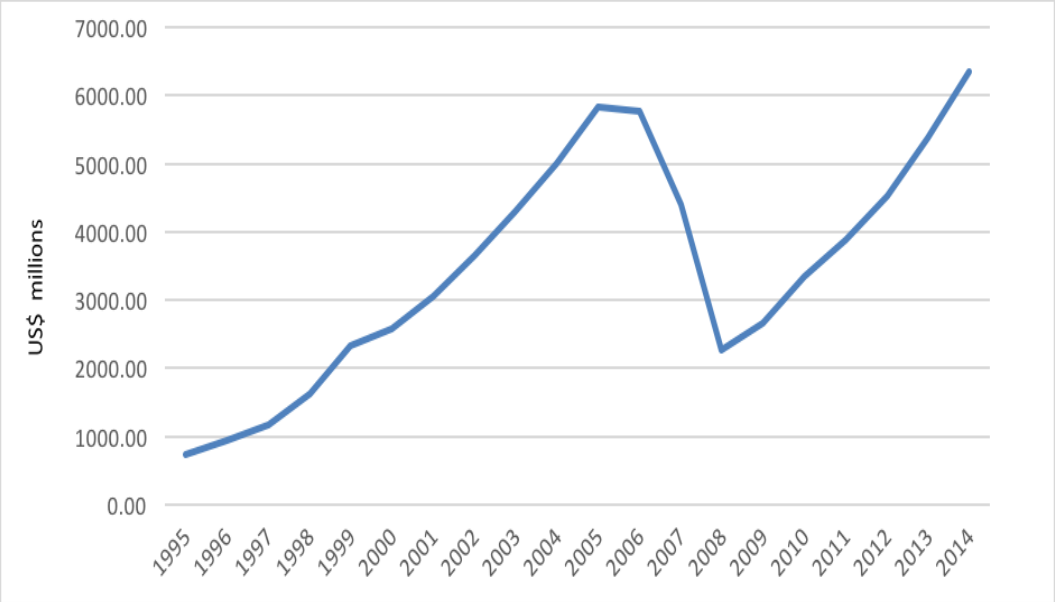
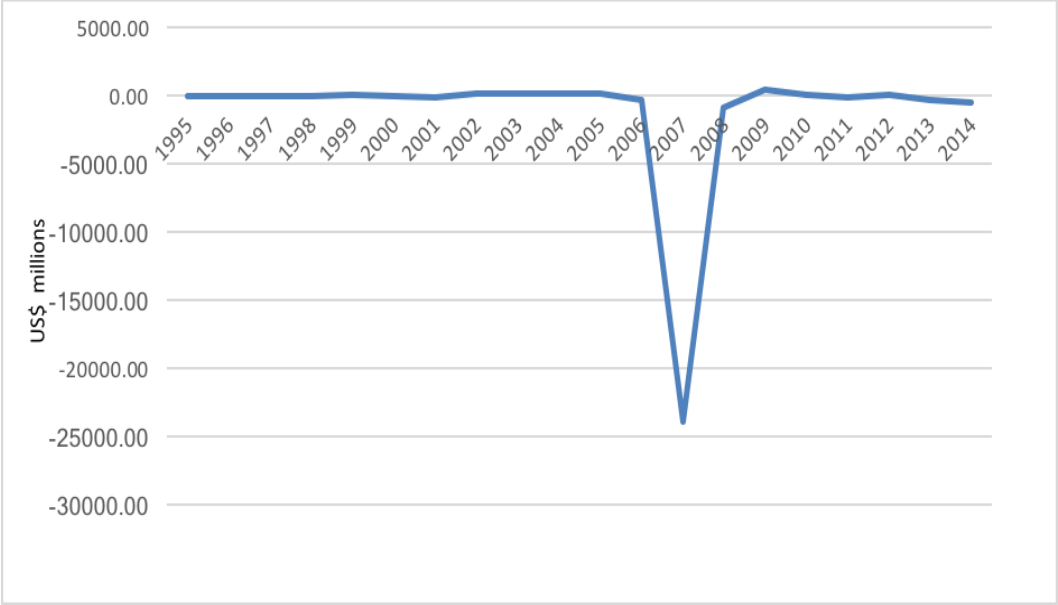


Figure 5.4.17: Home Depot – Earnings

The OCI remained close to zero throughout the study period, except for a noticeable correction in 2007 (see Panel A, Figure 5.4.18). The sharp decline in OCI is due to retirement of about US$24 billion of treasury stock being included in calculated OCI but not being reflected anywhere in reported OCI.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

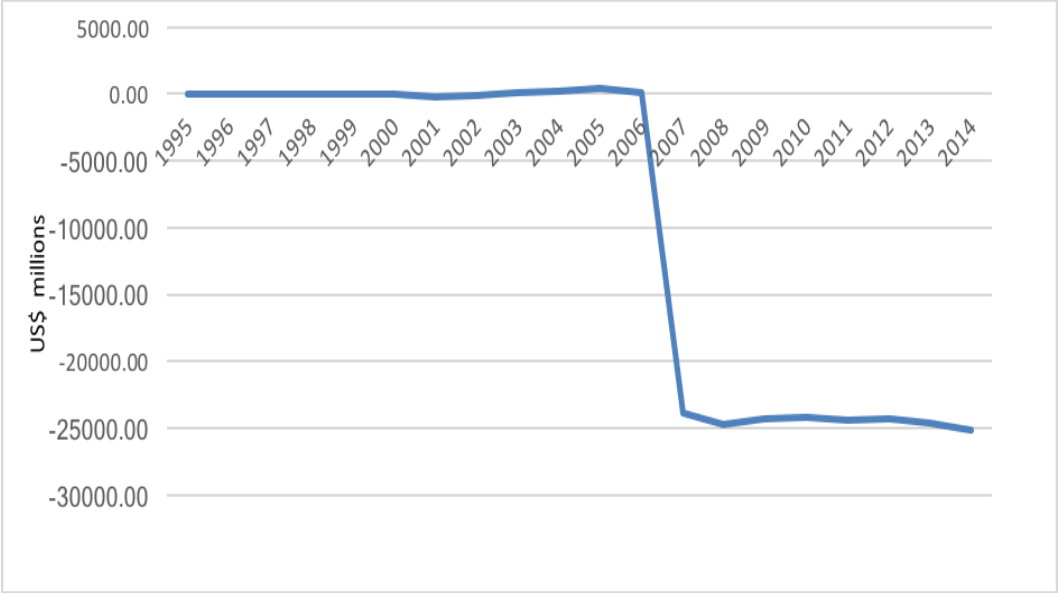
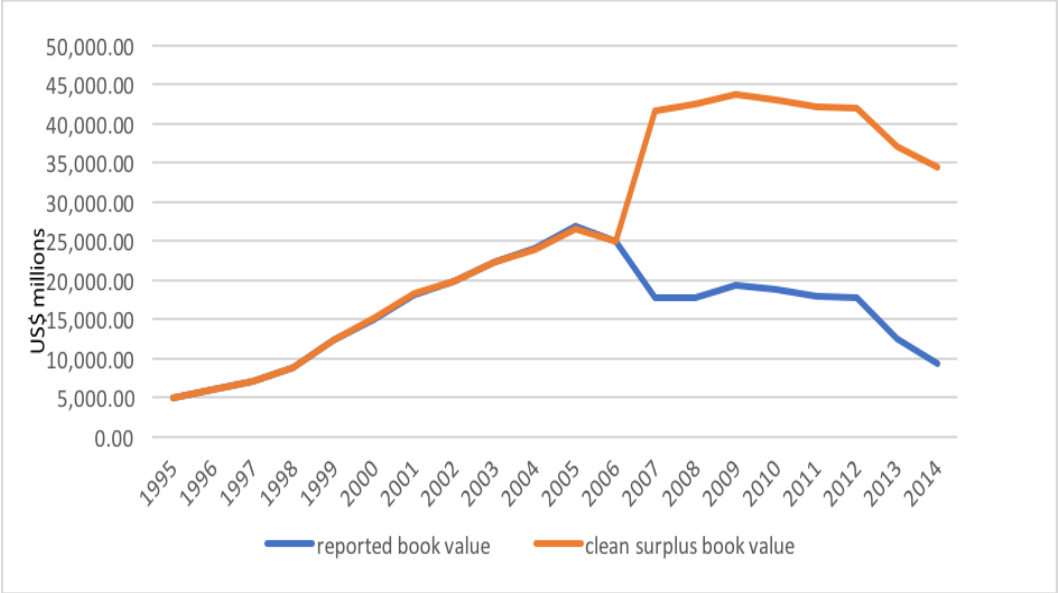


Figure 5.4.18: Home Depot – Other Comprehensive Income and Accumulated Other Comprehensive Income

Generally, negative OCI in 2007 pulled the reported book value away from clean surplus book value (Figure 5.4.19). This indicates that reversal of OCI items is not the only factor that causes a deviation of reported book value from clean surplus book value: retirement of treasury stock can also have an effect. Reported book value remained close to clean surplus book value in the period when OCI was zero or close to zero. However, retirement of treasury stock reflected in OCI significantly affected the pattern of OCI, AOCI and reported book value.

Unlogged data



Logged data

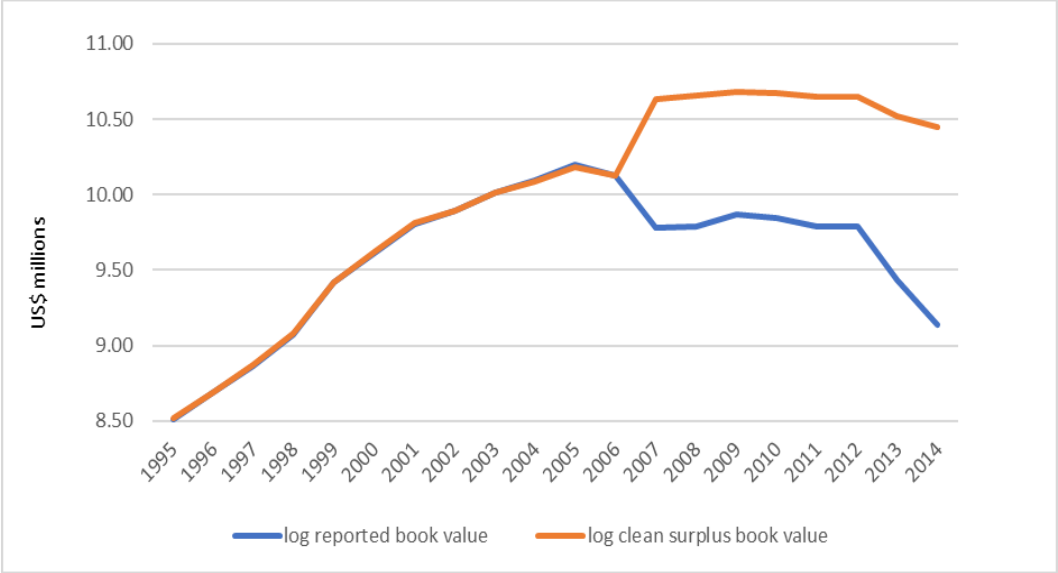


Figure 5.4.19: Home Depot – Comparison of reported and clean surplus book value

Figure 5.4.20 illustrates the ratio of reported book value to clean surplus book value. This ratio remained close to the expected value of 1 while OCI was close to zero. In 2007, repurchase of treasury stock affected the pattern of reported book value significantly and the ratio dropped from 1 to below 0.40 after 2011.

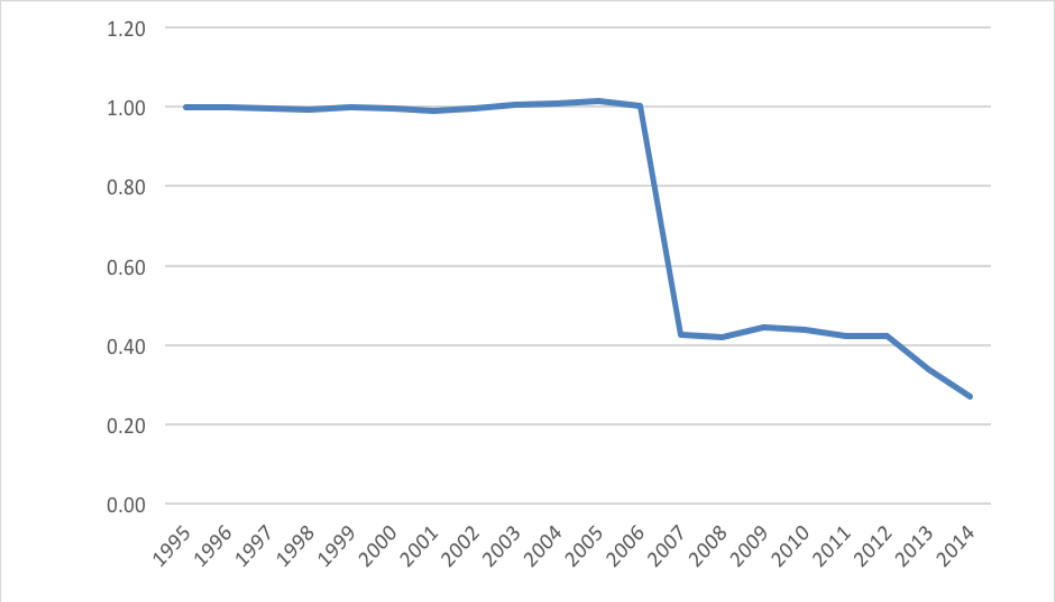


Figure 5.4.20: Home Depot – Ratio of reported book value to clean surplus book value

Table 5.4.10 shows only two types of adjustments (foreign currency translation and hedging activities) that were made in OCI account for Home Depot between 2006 and 2014. The two largest foreign currency losses were reported in 2008 and 2011, both of which reversed out fully in the following year. However, foreign currency losses in OCI in the final two years (2013 and 2014) were increased and not reversed over time.

Hedging activities also contributed an accumulated negative amount of US$129 million to OCI in the case of Home Depot (Table 5.4.10). These significant losses from hedging activities were reported in 2010.

Table 5.4.10: Home Depot – other comprehensive income statement 2006–2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Foreign currency translation adjustments	-510	-329	100	-143	206	426	-831	455	-77
Foreign currency translation adjustments, net of tax	**-510**	**-329**	**100**	**-143**	**206**	**426**	**-831**	**455**	**-77**
Cash hedging net of tax	11	-12	5	5	-116	11	-1	-10	-22
Hedging activities, net of tax	**11**	**-12**	**5**	**5**	**-116**	**11**	**-1**	**-10**	**-22**
Other	**1**	**-10**	**-1**	**-14**	**-7**	**2**			
Other comprehensive income/(loss)	**-498**	**-351**	**104**	**-152**	**83**	**439**	**-832**	**445**	**-99**
Other comprehensive income/(loss) b/f	46	397	293	445	362	-77	755	310	409
Other comprehensive income/(loss) c/f	-452	46	397	293	445	362	-77	755	310

Source: Annual report Home Depot 2008, 2011, 2014 http://www.annualreports.com/Company/the-home-depot-inc

Table 5.4.11 compares reported OCI with OCI calculated using the formula in Table 4.3.1 for Home Depot. The major difference between the size of negative calculated OCI and reported OCI is due to a very large 'retirement of treasury stock', reported directly into retained earnings, which pulled reported book value away from clean surplus book value. In contrast, if this amount is reported in the additional paid-in capital, it creates no difference between reported book value and clean surplus book value[7] (FASB, 2011).

The reporting of about US$24 billion in retained earnings instead of additional paid in capital caused the divergence of reported book value from clean surplus book value and gives a different picture of its long-term performance.

[7] How Home Depot presented retirement of treasury stock information in the statement of change in equity 2007–2008 and statement of earnings are shown in Appendix 1, Panels A and B.

Table 5.4.11 : Home Depot – Difference in calculated other comprehensive income (OCI) and reported OCI

Year ended	OCI calculated	OCI reported	Difference	Description in financial statement
	US$m	US$m	US$m	US$m
January 30, 2006	-356	-99	-257	See below note 1
January 30, 2007	-23905	445	-24350	See below note 2
January 30, 2008	-866	-832	-34	Other
January 30, 2009	436	439	-3	Other
January 30, 2010	83	83	0	
January 30, 2011	-152	-152	0	
January 30, 2012	104	104	0	
January 30, 2013	-351	-351	0	
January 30, 2014	-498	-498	0	

Working note 1

Accumulated effect of adjustment resulting from the adoption of SAB 108, net of tax of $257 bypass the income statement and directly reported into in retained earnings	-$257

Working note 2

Retirement of treasury stock reported in retained earnings should be reported in OCI	-$24,239
Accumulated effect of adjustment resulting from the adoption of FIN 48, net of tax of $111 bypass the income statement and directly reported into in retained earnings	111
Net effect as above	**-$24,350**

5.4.6 Analysis of Moody's Corporation (SIC 6282)

Moody's is an eessential component of the global capital mmarkets, providing credit ratings, research, tools and analysis that ccontribute to transparent and integrated financial markets.
Source: https://www.moodys.com/

Figure 5.4.21 shows time sequence plots of earnings for Moody's Corporation from 1995 to 2014. There is a generally increasing trend in Moody's earnings. However, there is considerable adjustment in 1996 and again in 2007 and 2008, showing that Moody's earnings are affected by the firm's discontinuous operation in 1996. The GFC also affected the pattern of earnings in 2007 and 2008. Moody's earnings dropped from about US$800 million to US$400 million in 2008.

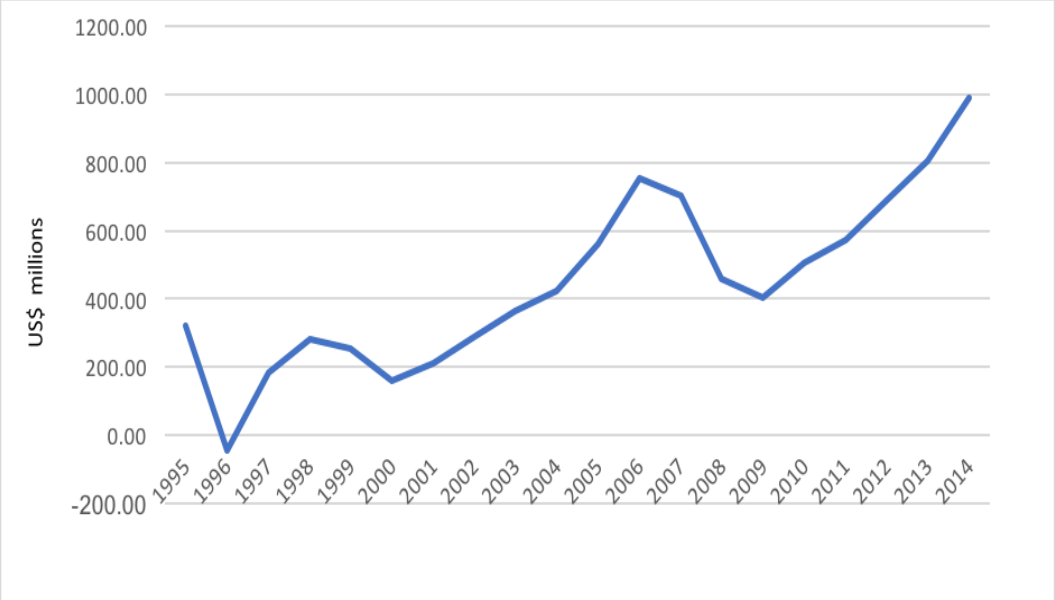
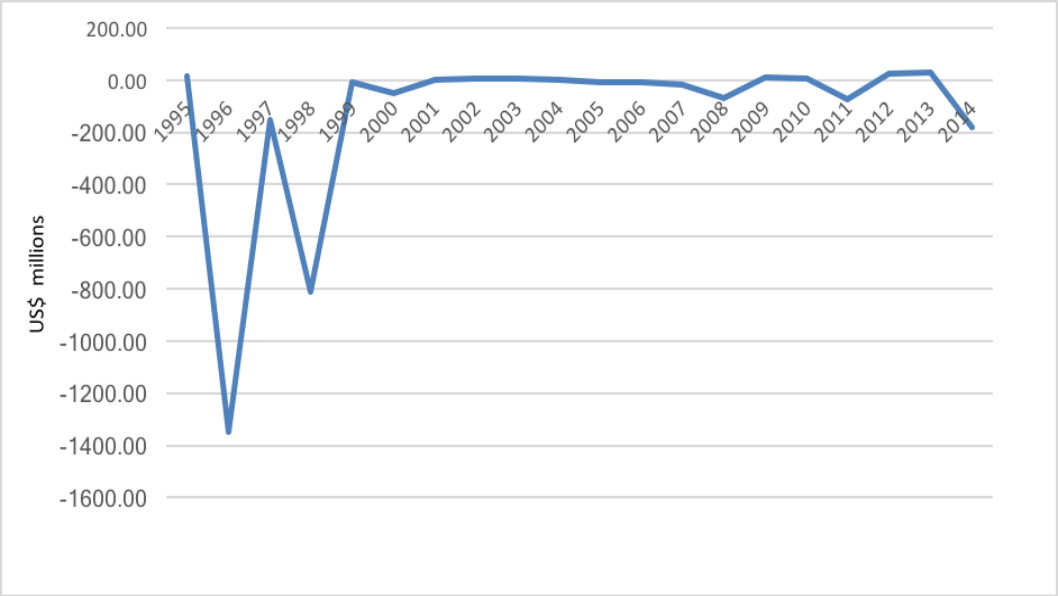


Figure 5.4.21: Moody's Corporation – Earnings

The sharp declines in OCI (Panel A, Figure 5.4.22) in 1996 and 1998 is due to a large number of losses relating to Moody's discontinuous operation not being reflected in reported OCI.

AOCI (Panel B, Figure 5.4.22) remained below negative US$2 billion after a noticeable adjustment in 1996. After 1998, the pattern of AOCI is less easily interpreted because OCI remained close to zero during that period. The effect of the GFC is relatively less pronounced in the patterns of Moody's OCI than in some other firms (e.g., ConocoPhillips).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

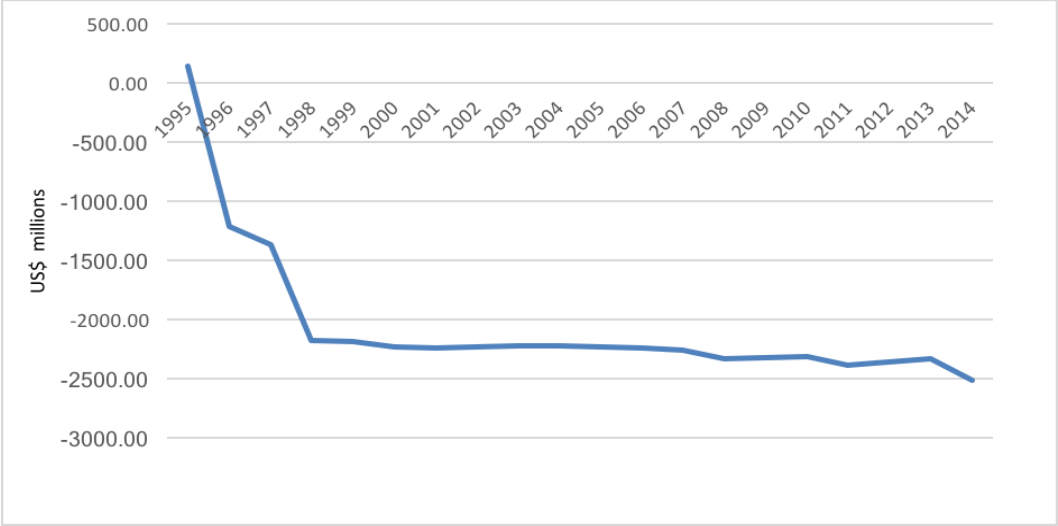


Figure 5.4.22: Moody's Corporation – Other Comprehensive Income and Accumulated Other Comprehensive Income

The negative reporting of OCI led to the deviation of reported book value from clean surplus book value. The book value is generally reported lower than clean

surplus book value, as was seen in some other firms (e.g., Duke Energy). Reported book value was noticeably adjusted during the GFC (Figure 5.4.23).

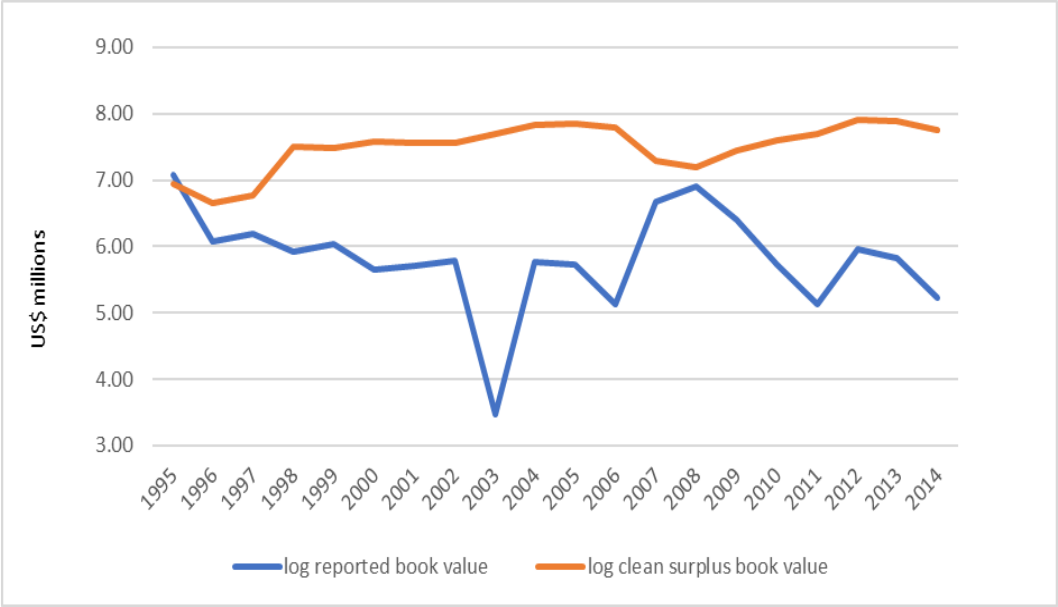


Figure 5.4.23: Moody's Corporation – Comparison of reported book value and clean surplus book value

Reported book value remained below US$1 billion during most of the study period. The ratio of reported book value to clean surplus book value (Figure 5.4.24) declined from above 1 to about 0 in 2003. The ratioz was also very low after 2011, which shows that reported book value was noticeably lower than the book value expected from the income statement. Based on the criteria used here, earnings declined over time.

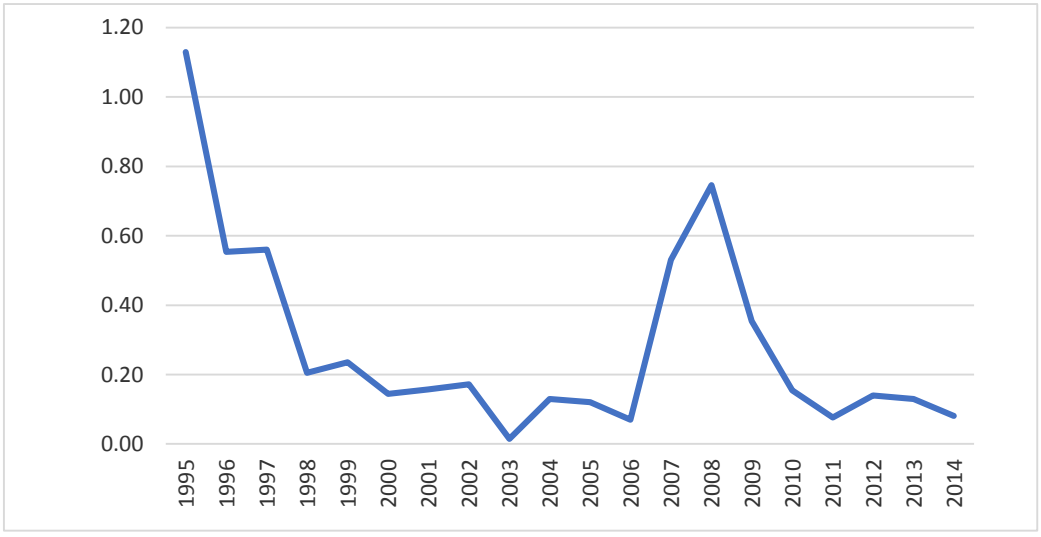


Figure 5.4.24: Moody's Corporation – Ratio of reported book value to clean surplus book value

Table 5.4.12 shows the fluctuations in the OCI account of Moody's over the period 2006–2014. Foreign currency losses and pension benefit plans are major adjustments in the OCI account over the study period. The largest foreign currency losses are reported in the OCI account of this firm in 2008, 2011 and 2014; these fully reversed out in following years. The next adjustment pension benefit plan includes net actuarial losses and prior service cost; amortisation and recognition of prior service costs; actuarial gains (losses); additional minimum pension liability and amounts eliminated that are related to additional minimum pension liability upon the implementation of

SFAS No. 158. The accumulated size of foreign currency losses and pension benefit plans contributed in the OCI account of Moody's was negative US$155 million and negative US$102 million, respectively, between 2006 and 2014. The unrealised gains and losses on investment hedging and securities contributed positively in the OCI account.

Table 5.4.12: Moody's Corporation – Other comprehensive income statement 2006–2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Defined benefit plans:									
Net actuarial losses and prior service cost	-56.70	29.90	-14.80	-34.20	-7.30	-10.40	-26.70	7.80	
Amortisation and recognition of prior service costs and actuarial gains (losses)	4.50	7.00	5.90	4.40	2.90	0.60	0.90	3.40	-22.50
Additional minimum pension liability									1.00
Amounts eliminated related to additional minimum pension liability upon the implementation of SFAS No. 158									2.50
Defined benefit plans, net of tax	**-52.20**	**36.90**	**-8.90**	**-29.80**	**-4.40**	**-9.80**	**-25.80**	**11.20**	**-19.00**
Foreign currency translation adjustments	-148.70	-13.80	34.20	-46.90	11.50	22.20	-37.80	12.90	11.40
Foreign currency translation adjustments, net of tax	**-148.70**	**-13.80**	**34.20**	**-46.90**	**11.50**	**22.20**	**-37.80**	**12.90**	**11.40**
Net realised and unrealised gain on cash flow and net investment hedges	19.40	4.40	0.10	2.60	0.70	-1.50	-4.10	-0.10	0.10
Hedging activities, net of tax	**19.40**	**4.40**	**0.10**	**2.60**	**0.70**	**-1.50**	**-4.10**	**-0.10**	**0.10**
Net unrealised gain on available for sale securities	0.90								
Unrealised gain/loss on securities, net of tax	**0.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Other comprehensive income/(loss)	**-180.60**	**27.50**	**25.40**	**-74.10**	**7.80**	**10.90**	**-67.70**	**24.00**	**-7.50**
Other comprehensive income/(loss) b/f	-54.60	-82.10	-107.50	-33.40	-41.20	-52.10	15.60	-8.40	-0.90
Other comprehensive income/(loss) c/f	-235.20	-54.60	-82.10	-107.50	-33.40	-41.20	-52.10	15.60	-8.40

Source: Moody Corp's Annual Reports 2008, 2011, 2014; http://www.annualreports.com/Company/moodys-corp

Table 5.4.13 shows the difference between reported OCI and calculated OCI over the period 2006–2014. During this period, the size of OCI is close to the size of OCI calculated as per Table 4.3.1; this is despite some minor differences due to a change in accounting policy affecting reported book value that was directly recorded into retained earnings. However, all material OCI items that were expected were reported in comprehensive income of Moody' Corporation over the period from 2006-2014. Based on information available, it seems that losses in 1996[8] from the discontinued operation (which was excluded from the above period) had a significant effect on the comprehensive income of the firm from 1996 to 1998[9].

Table 5.4.13: Moody's Corporation – Difference in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year ended	OCI calculated	OCI reported	Diff.	Description in financial statement
	US$m	US$m	US$m	US$m
30-Jan-06	-7.5	-7.5	0	
30-Jan-07	-19.4	24	-43.4	See Note 1 below
30-Jan-08	-67.7	-67.7	0	
30-Jan-09	10.9	10.9	0	
30-Jan-10	7.8	7.8	0	
30-Jan-11	-74.1	-74.1	0	
30-Jan-12	25.4	25.4	0	
30-Jan-13	27.5	27.5	0	
30-Jan-14	-180.6	-180.6	0	

Working note 1

Amounts recognised upon implementation of FIN 48 reported in retained earnings should be part of other comprehensive income	($43.40)

5.4.7 Analysis of Crawford & Company (SIC 6411)

Crawford & Company is a global business services leader and one of the world's largest independent providers of global claims management solutions to the risk

[8]Data limitation: annual financial statements from 1996 to 1998 for Moody's are not publicly available, which restricts the opportunity to further investigate the 1996 discontinuous operation of this firm.

[9] Financial statements for Moody's Corporation, which include a statement of shareholders' equity (2007) and consolidated statement of earnings, are illustrated in Appendix 1.

management and insurance industry. Their clients include multinational carriers, brokers, local insurance firms and 200 of the Fortune 500 corporations. https://www.crawco.com/

Generally, the pattern of earnings of Crawford (Figure 5.4.25) reflect the patterns observed in the retail trade industry. There is a definite correction in Crawford earnings just after the GFC period. The decline in earnings in 2009 to negative US$115.68 million is due to goodwill and intangible asset impairment charges in this year increasing by about US$141 million from the previous year. Crawford earnings remained positive throughout study period, except for the noticeable adjustment during the GFC.

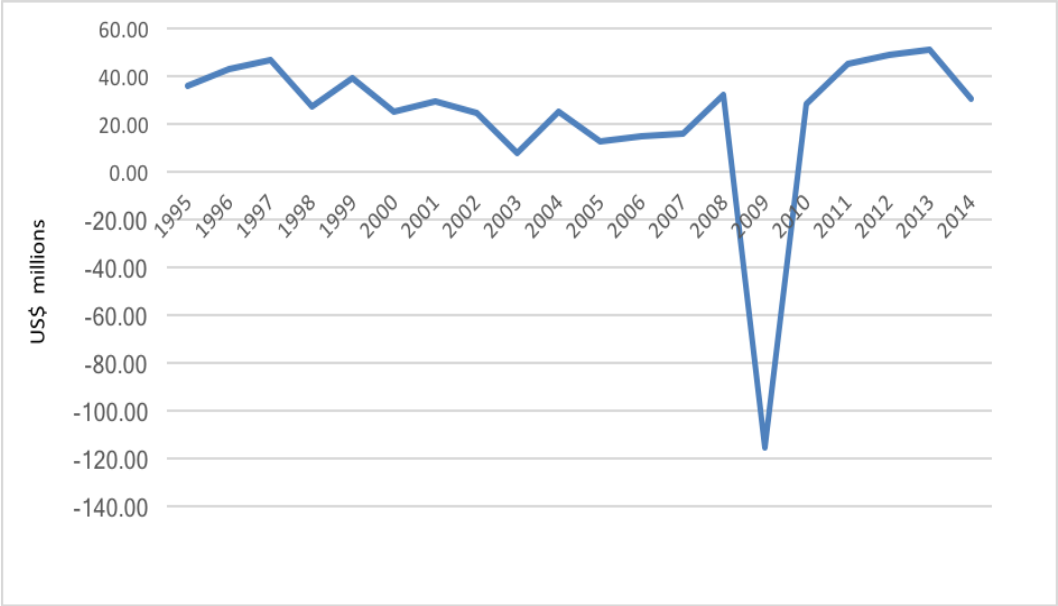
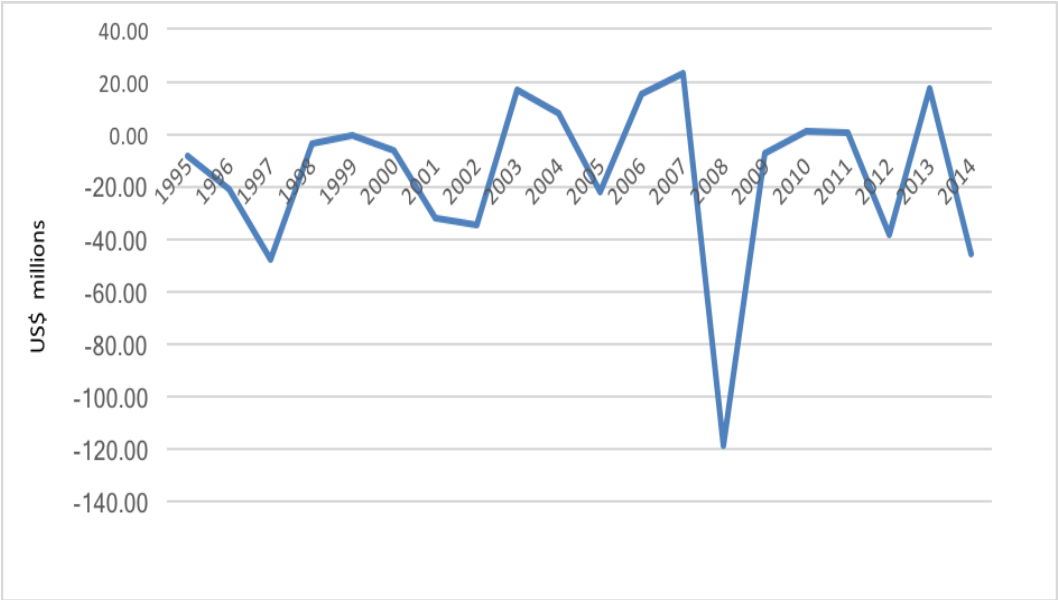


Figure 5.4.25: Crawford & Company – Earnings

Figure 5.4.26 shows Crawford's characteristics of AOCI (Panel B) and OCI (Panel A) from 1995 to 2014. The reporting of AOCI displays a strong downward trend leading to a greater divergence between reported and clean surplus book value (Figure 5.4.27). There is a definite correction in Crawford's OCI just before the GFC period. The sharp decline in OCI from US$23.17 million to negative US$118.80 million is noticeable (Panel B, Figure 5.4.26).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income (AOCI)

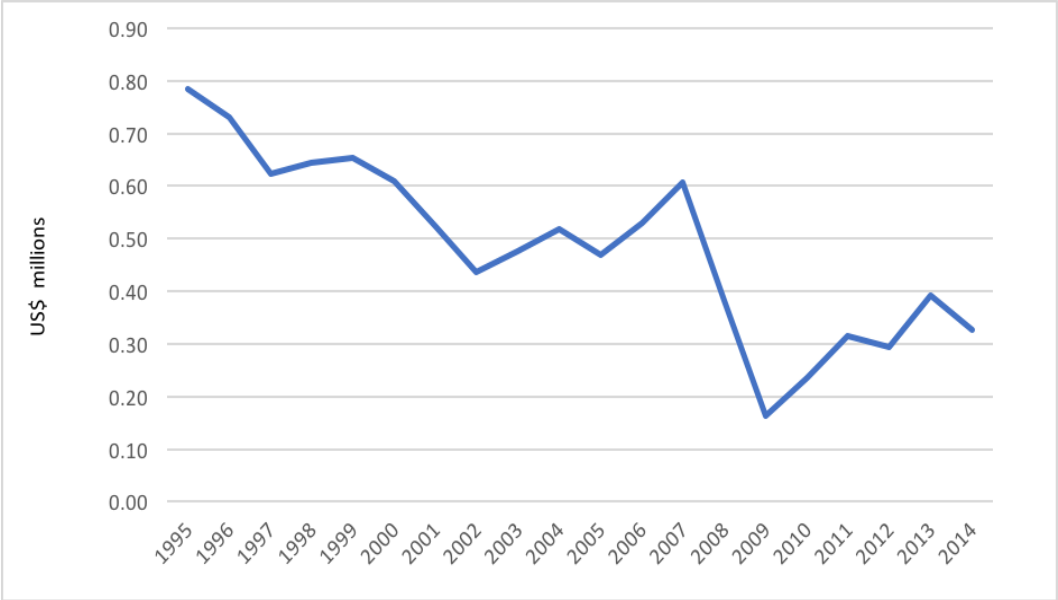


Figure 5.4.26: Crawford & Company – Other Comprehensive Income and Accumulated Other Comprehensive Income

The reported book value remained below the clean surplus book value throughout the study period. However, the difference between two book values increased after the GFC, showing that purchase of treasury stock in this period has affected the patterns of OCI, AOCI and reported book value.

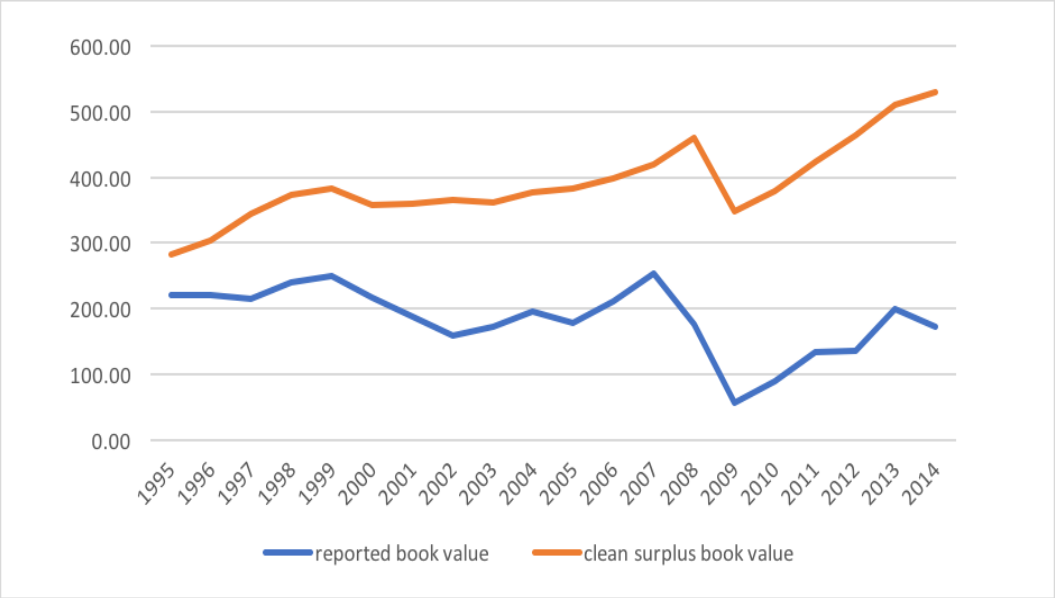


Figure 5.4. 27: Crawford & Company – Comparison of reported book value and clean surplus book value

Figure 5.4.28 shows a gradually decreasing trend in the ratio of reported book value to clean surplus book value. This ratio remained below the expected value of 1 throughout the study period. There is a noticeable adjustment during the GFC. Based on the criteria used here, earnings quality is judged lower after 2011.

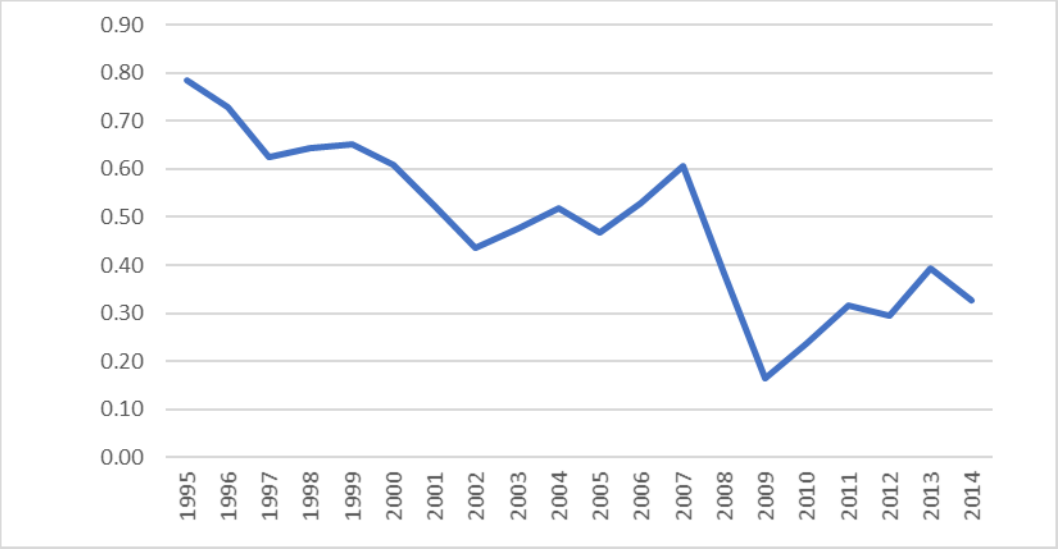


Figure 5.4.28: Crawford & Company – Ratio of reported book value to clean surplus book value

Table 5.4.14 shows three different types of adjustment in the OCI account for this firm between 2006 and 2014. The pension benefits plan adjustments are material, and include amounts reclassified into net income for defined benefit pension plans; net unrealised (loss) gains on defined benefit plans arising during the year; accrued retirement liabilities adjustment, net of tax; and interest rate swap agreement loss reclassified into income, net of tax benefit. However, foreign currency translation losses also contributed over negative US$11 million in OCI for Crawford between 2006 and 2014. The significant foreign currency translation losses are reported in 2008 and fully reversed in the subsequent year. However, foreign currency losses in later years of the period are not reversed over time.

Table 5.4.15 shows the difference between calculated OCI and reported OCI. Examination of Crawford & Company shows that repurchase of common stock is reported directly into retained earnings after 2011, which causes a divergence between reported book value and clean surplus and provides a different underlying financial position of the firm.

FASB is flexible in reporting of the repurchase of common stock. Entities are permitted to report it in either additional paid in capital or in retained earnings (FASB, 2011).

Further analysis of Crawford & Company indicates that, if this amount is reported in additional paid in capital by adopting the FASB's first option (FASB, 2011), it affects neither the pattern of OCI nor the divergence between reported book value from clean surplus book value. Standard setters and the conceptual framework must examine the flexibility of FASB standards to determine whether such flexibility addresses the issue of earnings quality[10].

[10] How Crawford & Company present repurchases of common stock in the Statement of Change in Equity and Statement of Operation is illustrated in Appendix 1 (Panels A, B and C).

Table 5.4.14 Crawford and Company – difference in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year ended	OCI calculated	OCI reported	Diff.	Description in financial statement
	US$m	US$m	US$m	US$m
December 31, 2006	15336	15938	-602.00	See below note 1
December 31, 2007	23165	23379	-214.00	See below note 2
December 31, 2008	-118796	-118890	94.00	See below note 3
December 31, 2009	-7246	-7246	0.00	
December 31, 2010	1081	1081	0.00	
December 31, 2011	719	719	0.00	
December 31, 2012	-38104	-35967	-2137.00	See below note 4
December 31, 2013	17193	20222	-3029.00	See below note 5
December 31, 2014	-45729	-43145	-2584.00	See below note 6

Working note 1	
Sale of South Africa subsidiary stock amounted $602 reported in retained earnings should be part of other comprehensive statement as per Compustat definition (see Table 5.4.6 Panel)	$602
Net effect as listed above	**$602**
Working note 2	
Impact of FIN 48 adoption amounted $214 reported in retained earnings should be part of other comprehensive income as per Compustat definition (See table 5.4.6 panel)	$214
Net effect as listed above	**$214**
Working note 3	
Impact of SFAS 158 adoption, net of $48 and $277 tax reported in retained earnings should be part of other comprehensive income as Compustat definition (See table 5.4.6 panel)	94.00
Net effect as listed above	**$94**

Working note 4 & 5 & 6	**2014**	**2013**	**2012**
Repurchase of common stock reported in retained earnings should be reported in OCI as per Compustat definition (See table 5.4.6 panel)	-$2,981	-3,078	-$2,226
Less: Non-controlling interest relating to OCI items should be reported in OCI as per Compustat definition	-$397	-$49	-$89

5.4.8 Analysis of Tejon Ranch (SIC 6519)

Tejon Ranch Company (NYSE: TRC) is a growth- oriented, diversified real estate development and agribusiness company. The Company's activities are performed through five major business segments:

- Real Estate Commercial/Industrial development, Real Estate
- Resort/Residential development, Mineral Resources
- Farming produces and sells almonds, pistachios, and wine grapes.

Ranch Operations includes grazing leases, hunting programs and location filming. Source: http://tejonranch.com/the-company/the-ranch/

The time sequence of earnings for Tejon Ranch from 1995 to 2014 is shown in Figure 5.4.29. Tejon's earnings are comparatively higher in recent years than during the initial study period. Losses are reported in 2000, 2003, 2006 and 2009, with immediate recovery in the subsequent period. The highest reported earnings were about US$16 million in 2011.

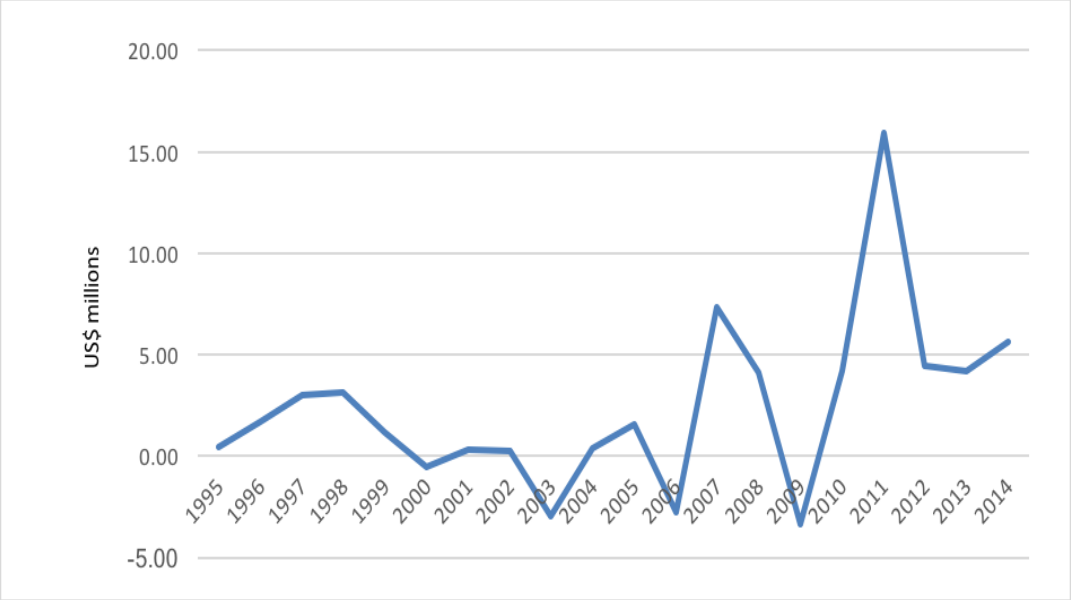
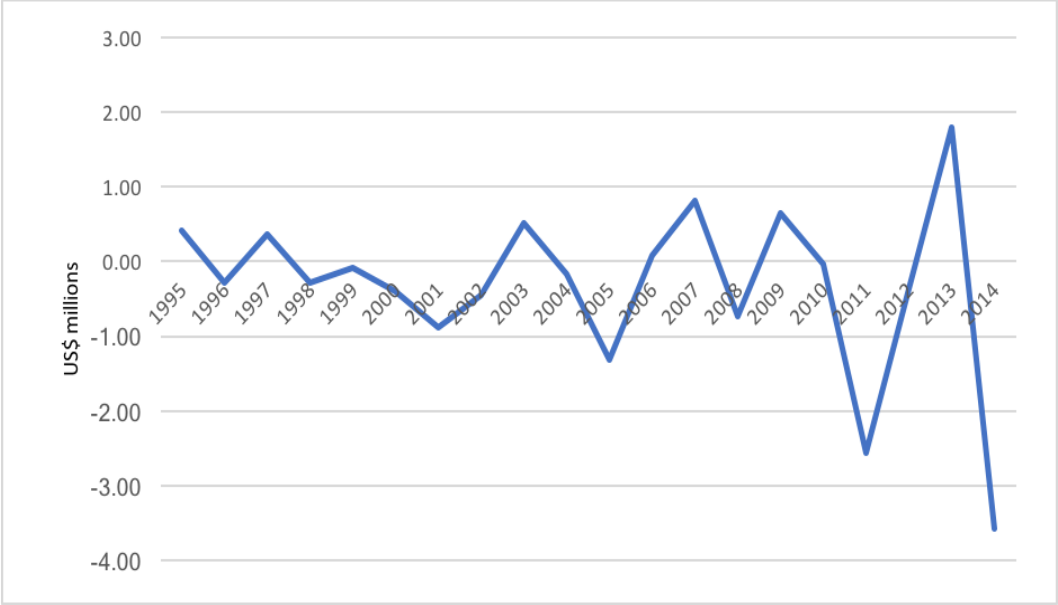


Figure 5.4. 29: Tejon Ranch – Earnings

Figure 5.4.30 shows a time sequence of OCI (Panel A) and AOCI (Panel B) for Tejon over the period. OCI is negative throughout the study period. Large losses in OCI are reported in 2011 and 2014. Negative AOCI values (Panel B in Figure 5.4.30) over the period become greater in the last three years. Reported book

value diverges from the calculated value of clean surplus book value (see Figure 5.4.31).

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

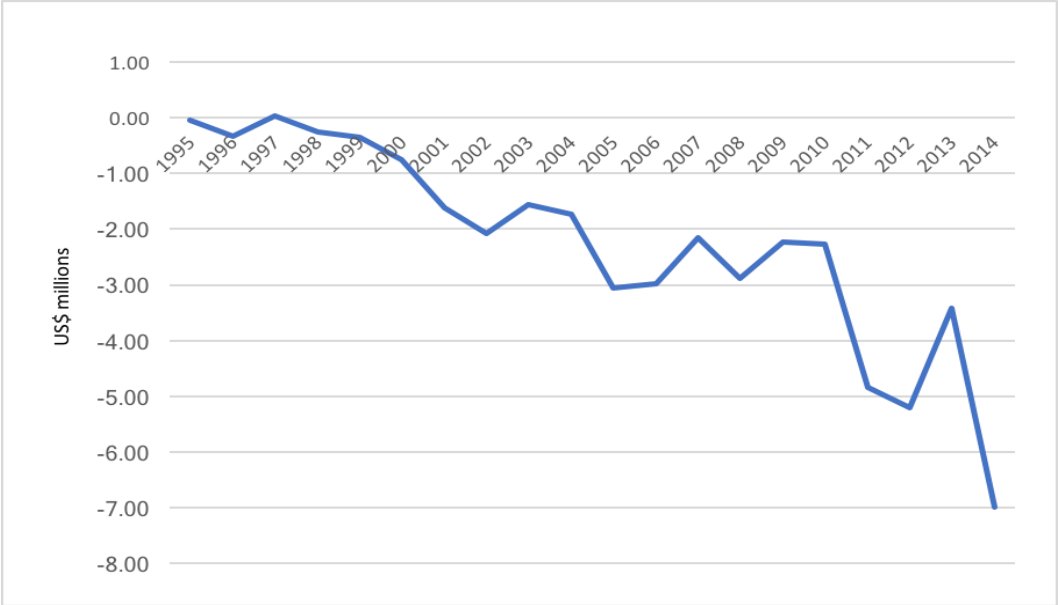


Figure 5.4.30: Tejon Ranch – Other Comprehensive Income and Accumulated Other Comprehensive Income

Although the losses included in OCI grow relative to earnings in the final three years, the size of Tejon's accumulated other losses are small compared to book value (approximately 2.5% in 2014).

Figure 5.4.31: Tejon Ranch – Comparison of reported book value and clean surplus book value

The average ratio of reported book value to clean surplus book value for Tejon Ranch (shown in Figure 5.4.32) was close to the expected value of 1 from 1995 to 2011, indicating that book value is reported as expected from the income statement. However, the largest losses reported in the final years see a divergence of reported book value from clean surplus book value. Before 2011, Tejon's reported book value is close to clean surplus book value, which is different behaviour to that of the sample of all Compustat firms. Generally, the behaviour of Tejon's OCI is similar to that of other firms in the SIC sector.

Table 5.4.16 shows six different types of adjustments that were made to Tejon's OCI account between 2006 and 2014. Assuming the unrealised interest rate swap losses are cash flow hedges, the items appear to be mandated by accounting standards. The treatment of unrealised gains and losses on available for sale securities follows the rules in FAS 115 (FASB, 1993). The largest unrealised

value losses were in 2008 (US$0.77 billion), which clearly reversed out in the subsequent period. The next three items relate to defined benefit pension schemes, which contributed to the negative pattern of Tejon's OCI of about US$4.3 billion in total.

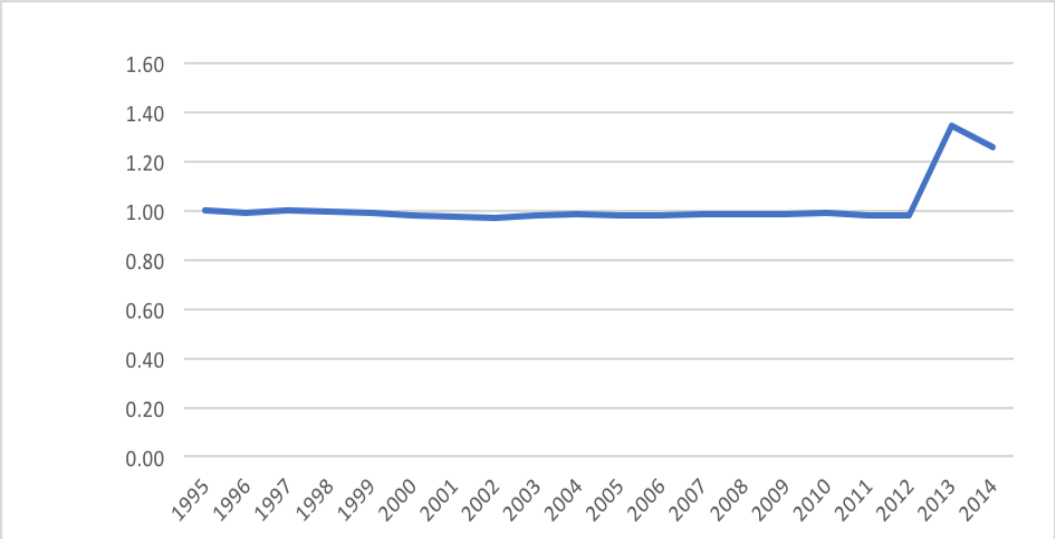


Figure 5.4.32: Tejon Ranch – Ratio of reported book value to clean surplus book

The treatment of unrealised gains and losses from the Supplemental Employee Retirement Plan (SERP) and pension schemes are covered by FASs 87, 106 and 158 (FASB, 2006).

The equity accounting adjustment is justified by the general principles of the equity method and consolidation accounting in various updates and amendments to APB Opinion 38 (APB, 1971) and FAS 94 (FASB, 1987). If the assumption noted above holds, the unrealised interest rate swap losses are treated as described in the subsequently amended FAS 13 (FASB, 1998). The Tejon's OCI pattern (see Panel A, Figure 5.4.30) indicates that OCI items are reversed in the subsequent period. This means that unrealised gains and losses of OCI are timing differences and will eventually reverse and be repatriated through the income statement. However, the time series patterns in Figure 5.4.30 suggest the magnitude of losses in the accumulated amount of OCI may be growing over time. The length of time over which this reversal process occurs, and whether it occurs, is of some interest and is considered later.

Table 5.4.15: Tejon Ranch – other comprehensive income statement 2006–2014

Year ended	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss)									
Unrealised gains/(losses) on available for sale securities	-208	-348	182	-49	-2	1128	-765	692	139
Benefit plan adjustments	-3,168	2,218	-922	-1548	-299	-394	-154	67	43
Benefit plan reclassification for losses included in net income	407	-	-	-1098	330	66	165	120	-111
SERP liability adjustments	-1,003	1,098	-12	130	-69	-154	28	-62	6
Equity in other comprehensive income of the unconsolidated joint venture	-	-	152						
Unrealised interest rate swap losses	-2,227	-	-						
Other comprehensive income/(loss) before taxes	-6,199	2,968	-600						
(Provision) benefit for income taxes related to other comprehensive loss items	2,644	-1,183	238						
Other comprehensive income/(loss)	**-3,555**	**1,785**	**-362**	**-2565**	**-40**	**646**	**-726**	**817**	**77**
Other comprehensive income/(loss) b/f	-3333	-5118	-4756	-2191	-2151	-2797	-2071	-2888	-2965
Other comprehensive income/(loss) c/f	-6888	-3333	-5118	-4756	-2191	-2151	-2797	-2071	-2888

Source: Tejon Annual Reports 2008, 2011, 2014; http://ir.tejonranch

5.4.9 Analysis of Berkshire Hathaway Inc. (SIC 6719)

Berkshire Hathaway Inc. is an American multinational conglomerate holding company headquartered in United States.

https://www.berkshirehathaway.com/

Figure 5.4.33 shows Berkshire Hathaway's earnings. Berkshire's earnings dropped from about US$13 billion to US$5 billion in 2008. The earnings behaviour is more volatile than that seen with public industry. Over the entire period, Berkshire's earnings increased from US$0.7 billion to about US$19 billion.

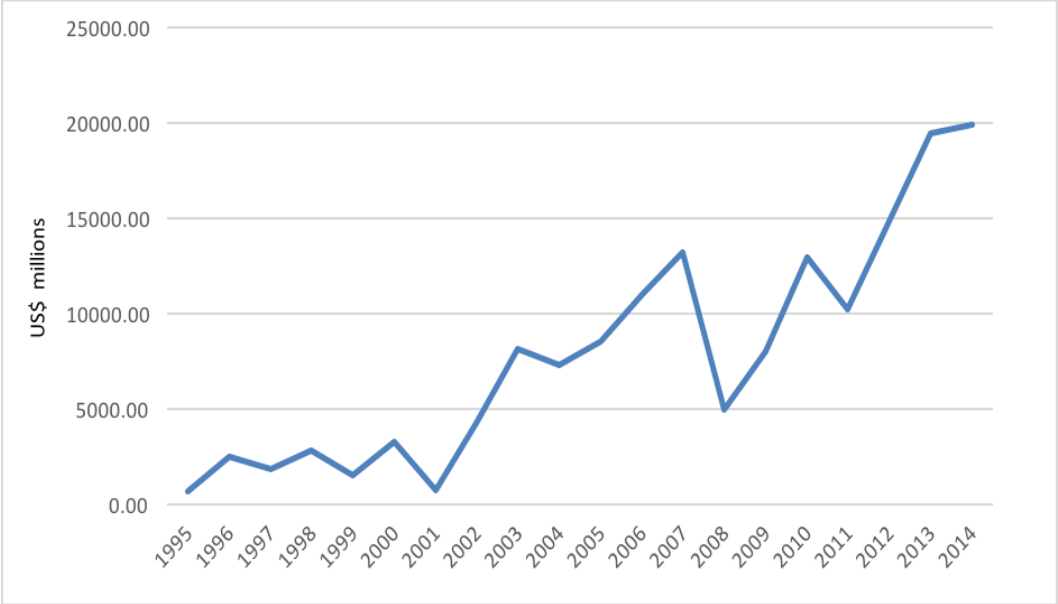


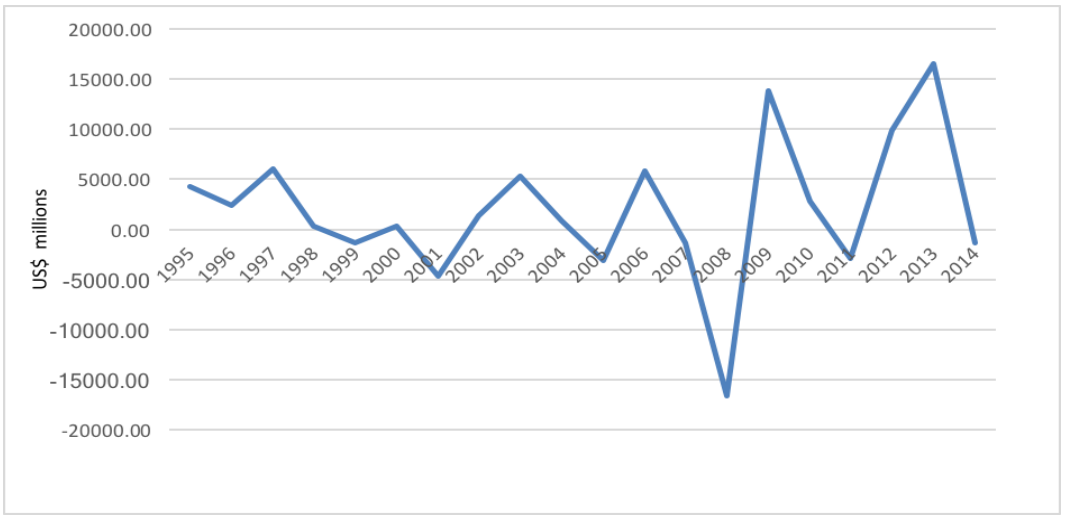
Figure 5.4.33: Berkshire Hathaway's – Earnings

Figure 5.4.34 shows time sequences of OCI (Panel A) and AOCI (Panel B) for Berkshire Hathaway's for the period 1995–2014. Generally, AOCI was positive and the impact of the GFC appeared to have been very noticeable. The patterns of AOCI and OCI were similar to those shown by the public administration industry as a whole.

OCI is reported generally positively, which contrasts with the negative pattern observed in many other industries (e.g., construction). The path of OCI was more volatile and similar to that for the whole public administration sector. The

standard deviation of OCI was about US$8 billion between 2011 and 2014, which is higher than for the entire study period (US$6.7 billion). Berkshire's OCI declined from about US$5.7 billion to negative US$16 billion in 2008.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

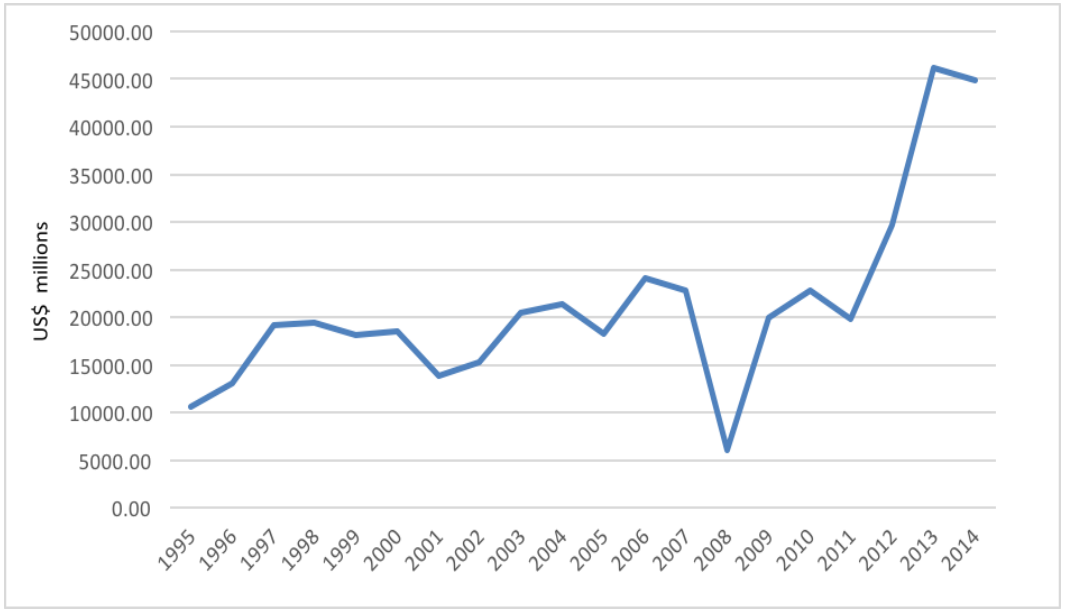


Figure 5.4. 34: Berkshire Hathaway's – Other Comprehensive Income and Accumulated Other Comprehensive Income (AOCI)

Book value was reported higher than clean surplus book value throughout the study period (see Figure 5.4.35), which differed markedly from other firms analysed (e.g., Motorola). The major adjustment in OCI in 2008 was reflected in the pattern of reported book value and clean surplus book value. Over the study period, reported book value moved in parallel to clean surplus book value, with more separation in final years (Figure 5.4.35).

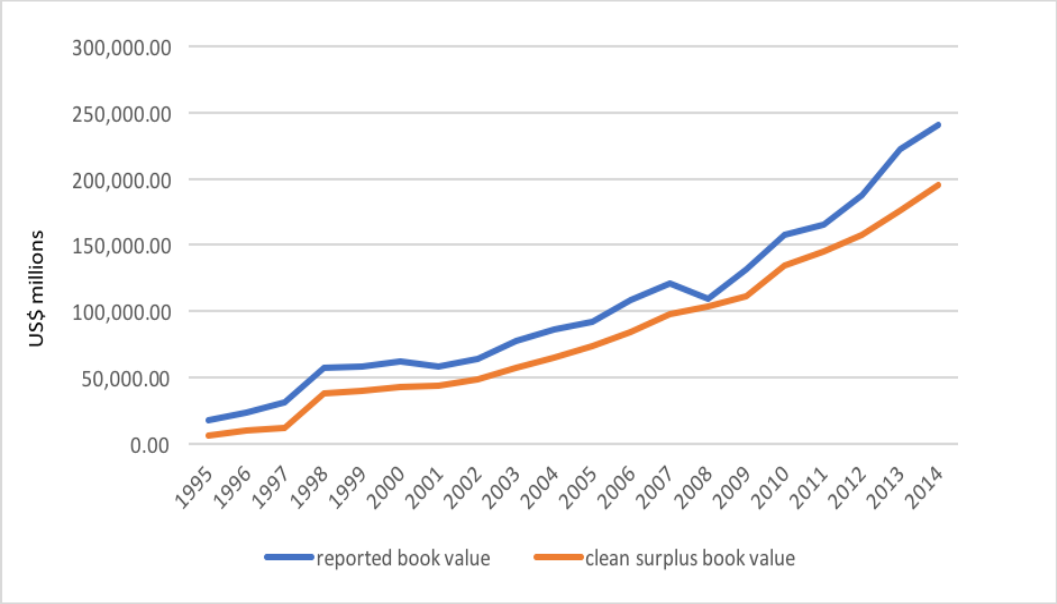


Figure 5.4. 35: Berkshire Hathaway's – Comparison of reported book value and clean surplus book value

Figure 5.4.36 shows the ratio of reported book value to clean surplus book value. The ratio dropped from above 2.50 to about 1.30 in 2014. The overall result is that Berkshire Hathaway's was the only firm analysed in this study for which reported book value was consistently greater than the book values that would be expected from an income statement reflecting clean surplus principles. The ratio remained above the expected value of 1 throughout the study period.

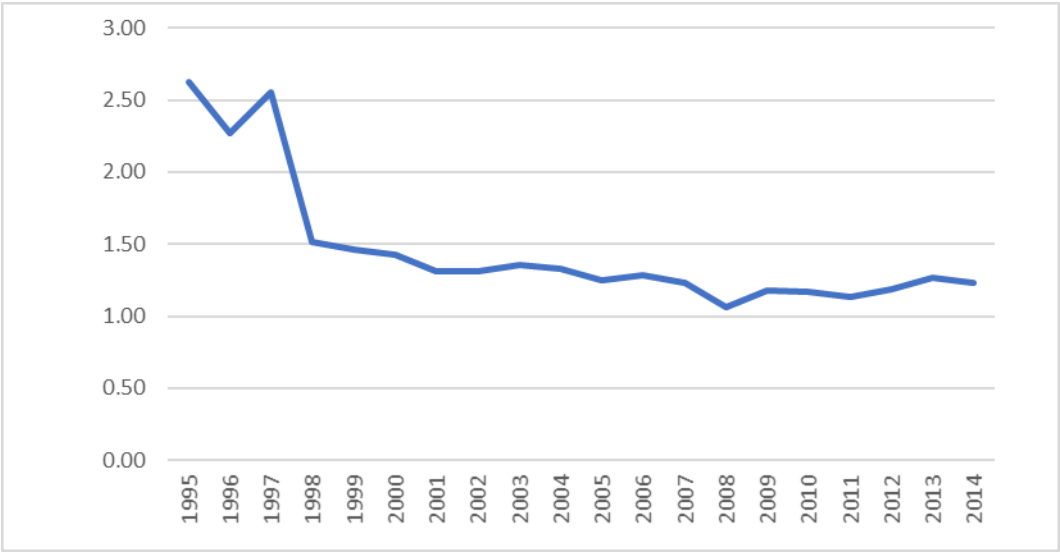


Figure 5.4. 36: Berkshire Hathaway's – Ratio of reported book value to clean surplus book value

Examples of what produce fluctuations in the financial statements of Berkshire Hathaway's over the period 2006–2014 are provided in Table 5.4.17. There were three main types of adjustment made to the OCI account between 2006 and 2014. Adjustments in pension benefits plans and foreign currency translation were a major portion of the OCI of this firm. The adjustments relating to foreign currency translation and prior service cost and actuarial gains/losses of defined benefit plans were comparatively significant in 2008, and these reversed out in the subsequent year (e.g., the adjustments relating to foreign currency losses in the OCI account amounted to $2,022 million in 2008, which reversed out with a gain of $834 million in 2009; see Table 5.4.17).

Table 5.4.16: Berkshire Hathaway – Other comprehensive income statement 2006–2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Prior service cost and actuarial gains/losses of defined benefit plans	-1703	2602	5	-1121	-76	-41	-1071	257	563
Applicable income taxes	624	-950	-26	401	25	-1	389	-102	-196
Defined benefit plans	-1079	1652	-21	-720	-51	-42	-682	155	367
Foreign currency translation adjustments	-2,032	-82	276	-126	-172	851	-2140	456	603
Applicable income taxes	183	34	-9	-18	-21	-17	118	-26	1
Foreign currency translation adjustments, net of tax	**-1,849**	**-48**	**267**	**-144**	**-193**	**834**	**-2,022**	**430**	**604**
Unrealised appreciation of investments	5831	25111	15700	-2146	5398	17607	-23342	2523	9278
Applicable income taxes	-2,062	-8691	-5434	811	-1866	-6263	8257	-872	-3246
Reclassification adjustment of investment appreciation included in net earning	-3,360	-2447	-953	-1245	-1068	2768	895	-5494	-1646
Applicable income taxes	1,176	856	334	436	374	-969	-313	1923	576
Realised and unrealised appreciation of investment	**1,585**	**14,829**	**9,647**	**-2,144**	**2,838**	**13,143**	**-14,503**	**-1,920**	**4,962**
Other, including minority interests	8	138	-32	3	195	-206	-60	-22	-13
Adoption of equity method							-399		
Changes in non-controlling interests:				76	1	110			
Other adjustments	42	-25	-15						
Transactions with non-controlling interests		-21							
Adoption of SFAS 158									-303
Other comprehensive income/(loss)	**-1,293**	**16,525**	**9,846**	**-2,929**	**2,790**	**13,839**	**-17,666**	**-1,357**	**5,617**
Other comprehensive income/(loss) b/f	44025	27500	17654	20583	17793	3954	21620	22977	17360
Other comprehensive income/(loss) c/f	42732	44025	27500	17654	20583	17793	3954	21620	22977

Source Annual report Berkshire Hathaway 2008, 2011, 2014 http://www.berkshirehathaway.com/reports.html

Appreciation of investments and accounting policy changes also contributed to the negative behaviour of the OCI account of Berkshire Hathaway's.

Table 5.4.18 shows the difference between calculated OCI and reported OCI for Berkshire Hathaway's from 2006 to 2014. There is no major difference, although there are a few minor differences due to changes in accounting policy from 2006 to 2008. The omission of losses incurred due to changes in accounting policy amounted to US$1.233 billion from 2006 to 2008, which affected the pattern of OCI of Berkshire Hathaway's over time and gave a different picture of its long-term performance.[11]

Table 5.4.18: Berkshire Hathaway – difference in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year ended	OCI calculated	OCI reported	Diff.	Descr. in financial statement
	US$m	US$m	US$m	US$m
30-Jan-06	5797	5617	180	See Note 1 below
30-Jan-07	-1329	-1357	28	See Note 2 below
30-Jan-08	-16641	-17666	1025	See Note 3 below
30-Jan-09	13839	13839	0	
30-Jan-10	2790	2790	0	
30-Jan-11	-2929	-2929	0	
30-Jan-12	9846	9846	0	
30-Jan-13	16525	16525	0	
30-Jan-14	-1293	-1293	0	

Working note 1 Effects of adoption of new accounting pronouncements bypass the income statement and directly reported into retained earnings	$180
Working note 2 Effects of adoption of new accounting bypass the income statement and directly reported into retained earnings	$28
Working note 3 Effects of adoption of equity method bypass the income statement and directly reported into retained earnings	$1,025

[11] Presentation of financial information provided by Berkshire Hathaway's, regarding the effect of change in accounting policy in their Income Statement and in their Statement of Changes in Equity in 2012, are provided in Appendix 1.

5.4.10 Analysis of LabCorp (SIC 8731)

LabCorp operates one of the largest clinical laboratory networks in the world. LabCorp is a fully integrated portfolio of specialty and esoteric testing laboratories.
Source: https://www.labcorp.com/

The reporting of earnings (Figure 5.4.37) displays a smooth, strong upward trend with minor adjustments in 2008 and 2011. The earnings of Laboratory CP slightly declined after 2011. The pattern for Laboratory CP generally reflects that seen in the service industry.

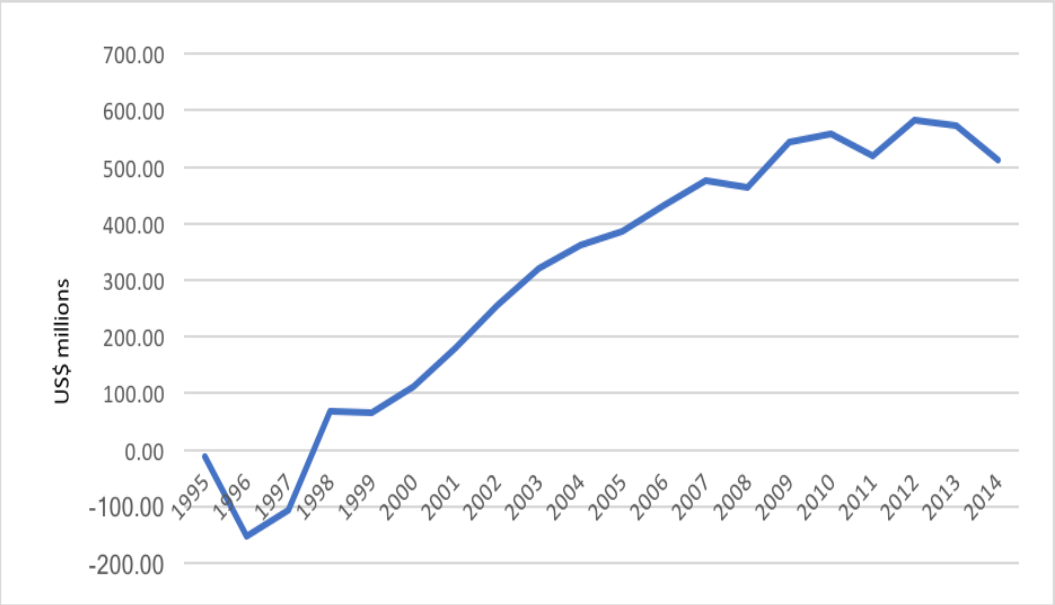
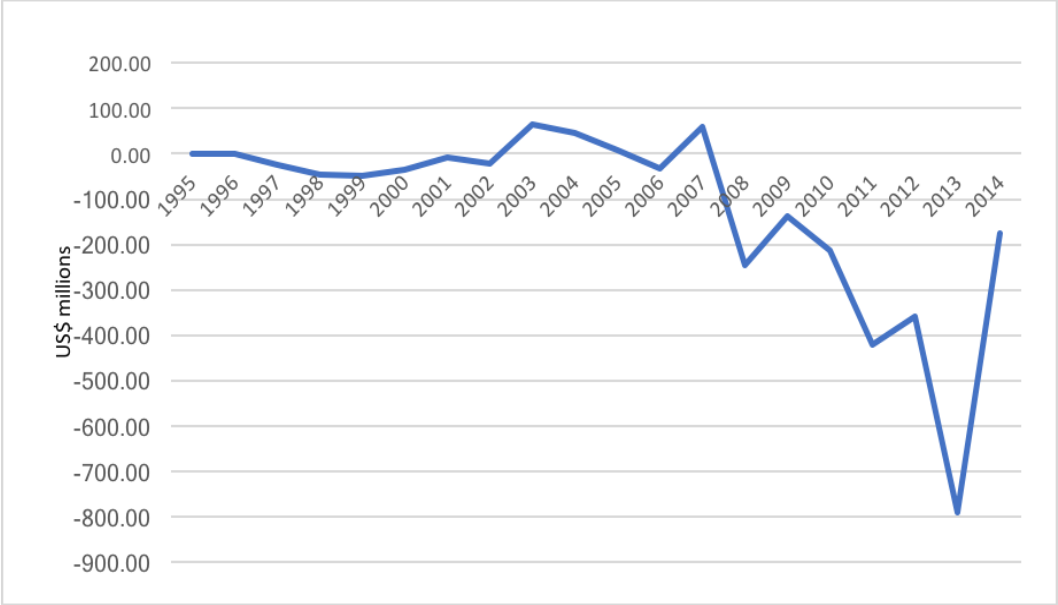


Figure 5.4.37: Laboratory CP – Earnings

Figure 5.4.38 shows the OCI (Panel A) and AOCI (Panel B) characteristics of Laboratory Corporation. The largest negative reporting of OCI after 2011 is similar to the pattern of OCI for the service industry. AOCI is consistently negative after 2007, due to the purchase of common stock from 2007 onward that was included in OCI but not reflected anywhere in reported OCI. It indicates that reporting of purchase and retirement of common stock is also a factor that can affect the patterns of OCI and reported book value.

Panel A: Other Comprehensive Income



Panel B: Accumulated Other Comprehensive Income

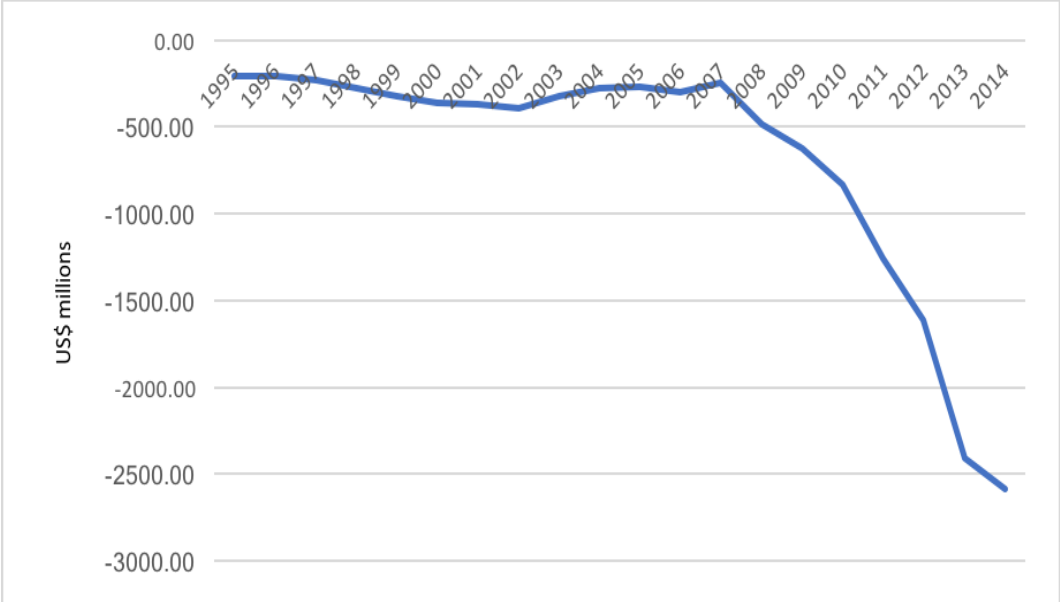


Figure 5.4.38: Laboratory CP – Other Comprehensive Income and Accumulated Other Comprehensive Income

The purchase of common stock after 2007 is quite consistent after 2007, showing that the AOCI (Panel B, Figure 5.4.38) was very high by 2014. The difference between reported and clean surplus book value of Laboratory CP is reasonably similar to the service industry firms. After 2011, reported book value declined by up to 50% more than clean surplus book value.

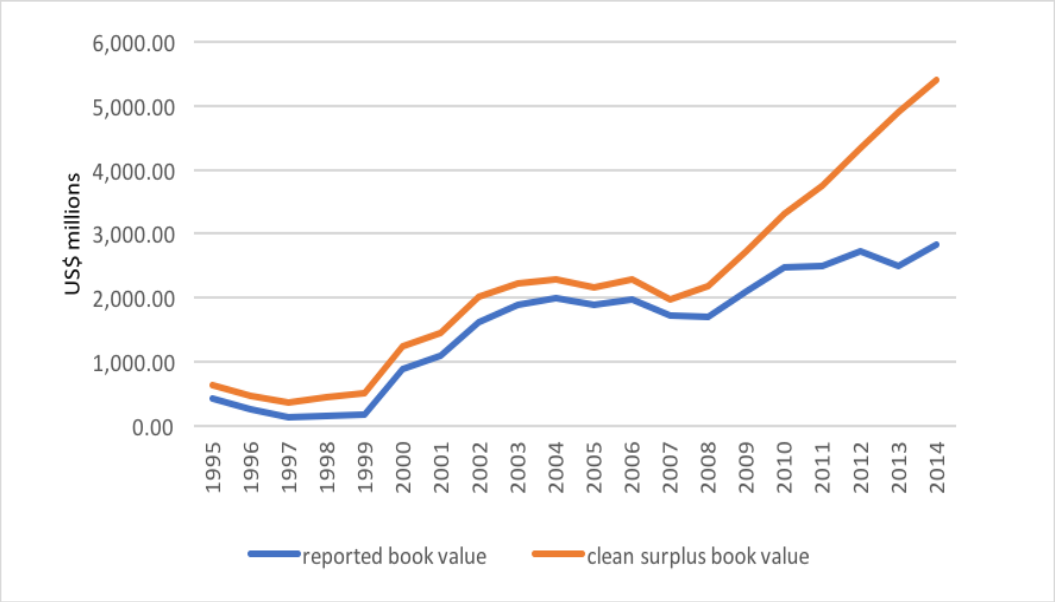


Figure 5.4. 39: Laboratory CP – Comparison of reported book value and clean surplus book value

Figure 5.4.40 shows the ratio of reported book value to clean surplus book value over the period 1995–2014. This ratio dropped from 0.90 to about 0.50 in 2014, a point when earnings quality was very low in the later years of the period.

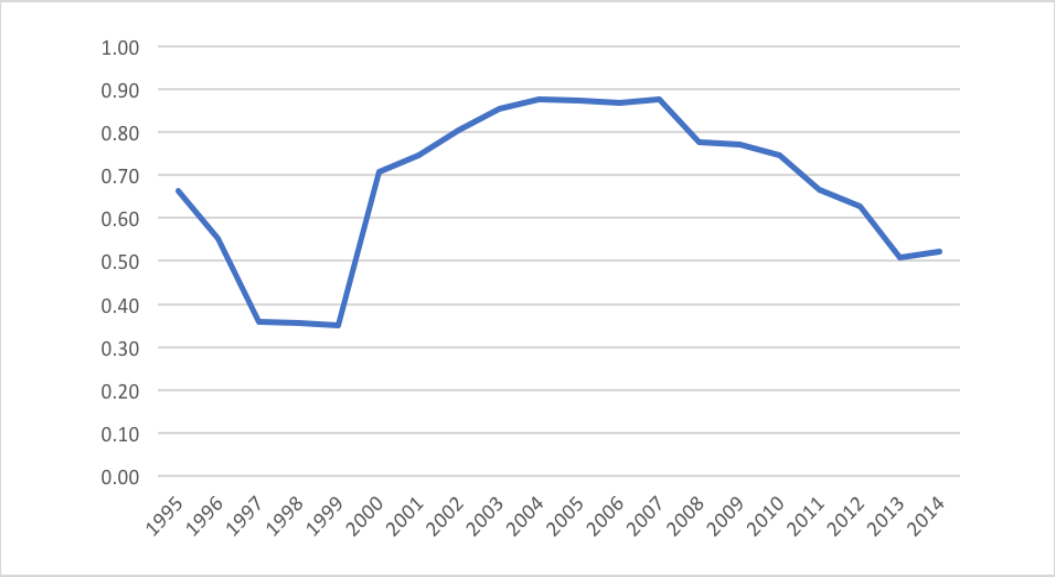


Figure 5.4. 40: Laboratory CP – Ratio of reported book value to clean surplus book value

Table 5.4.18 shows details of OCI components of Laboratory CP over the period 2006–2014. Six different types of adjustments were made to the OCI of this firm. The major adjustment related to foreign currency translations. The largest foreign currency losses were reported in 2008, 2013 and 2014, each of which reversed out in the subsequent year; for example, the reported foreign currency losses were U$$130 million in 2008, which reversed out with gains of $93 million in 2009. The other major adjustment in the OCI account of this firm related to the pension benefit plan. The negative adjustment in the pension benefits plan was made in 2008 (US$81 million), 2010 (US$8.30 million), 2011 (US$57.50 million) and 2014 (US$18.60 million). The accumulated size of foreign currency adjustments and pension benefit plans were negative US$80.5 million and US$33.8 million, respectively, over the period 2006–2014.

Table 5.4.17: Laboratory CP – Other comprehensive income statement 2006–2014

	2014	2013	2012	2011	2010	2009	2008	2007	2006
Other comprehensive income/(loss):									
Defined benefit plans:									
Net benefit plan adjustments	-18.60	42.10	7.30	-57.50	-8.30	31.50	-81.00	4.00	
Defined benefit plans, net of tax	**-18.60**	**42.10**	**7.30**	**-57.50**	**-8.30**	**31.50**	**-81.00**	**4.00**	**0.00**
Foreign currency translation adjustments	-89.50	-63.20	31.30	-13.20	41.30	93.30	-129.60	96.90	-1.10
Foreign currency translation adjustments, net of tax	**-89.50**	**-63.20**	**31.30**	**-13.20**	**41.30**	**93.30**	**-129.60**	**96.90**	**-1.10**
Provision for income tax related to items of comprehensive earnings	47.70	1.50	-14.70						
Investment adjustments	-16.30	16.40							
Adoption of FASB Statement No. 158, net of tax									-30.90
Tax effect of other comprehensive earnings adjustments				25.30	-14.20	-49.50	87.50	-39.60	0.40
Interest rate swap adjustments				2.40	8.20	2.90	-13.50		
Other comprehensive income/(loss)	-76.70	-3.20	23.90	-43.00	27.00	78.20	-136.70	61.30	-31.60
Other comprehensive income/(loss) b/f	66.2	69.4	45.5	88.5	61.5	-16.7	120	58.7	90.3
Other comprehensive income/(loss) c/f	-10.5	66.2	69.4	45.5	88.5	61.5	-16.7	120	58.7

Source: Source: Laboratory CP Annual Reports 2008, 2011, 2014; http://www.annualreports.com/Company/laboratory-corporation-of-america-holdings

Adoption of FASB statement no. 158 net of tax FASB, (2006), interest rate swap and the tax effect of other comprehensive earnings adjustments also contributed to negative behaviour of the OCI of Laboratory CP. Table 5.4.19 shows the difference between calculated OCI and reported OCI of Laboratory CP over the study period**.**

Comparison of the similar results for Laboratory CP and Crawford & Company indicates that purchase of common stock reported directly into retained earnings after 2007 created a difference between reported OCI and calculated OCI and led to a divergence of reported book value from clean surplus book value.

FASB is flexible in the reporting of the repurchase of common stock and allows it to be reported by entities either in additional paid in capital or in retained earnings (FASB, 2011).

Further analysis indicates that, if this amount was reported in additional paid in capital in accordance with the FASB's first option, it would affect neither the pattern of OCI nor the divergence of reported book value from clean surplus book value. Standard setters and the conceptual framework must examine the flexibility of FASB standards to determine whether such flexibility addresses the issue of earnings quality[12].

[12] How Laboratory CP illustrated its financial information about the purchase of common stock in their change in equity and in their income, statement is displayed in Appendix 1.

Table 5.4.18: Laboratory CP: Difference in calculated other comprehensive income (OCI) and reported OCI 2006–2014

Year ended	OCI calculated	OCI reported	Difference	Description in financial statement
	US$m	US$m	US$m	US$m
30-Jan-06	-31.6	-31.6	0	
30-Jan-07	60.3	61.3	-1	See Note 1 below
30-Jan-08	-244.9	-136.7	-108.2	See Note 2 below
30-Jan-09	-137.2	78.2	-215.4	See Note 3 below
30-Jan-10	-212.5	-27	-185.5	See Note 4 below
30-Jan-11	-422.1	-43	-379.1	See Note 5 below
30-Jan-12	-357.9	23.9	-381.8	See Note 6 below
30-Jan-13	-792	-3.2	-788.8	See Note 7 below
30-Jan-14	-175.3	-76.7	-98.6	See Note 8 below

Working note 1	
Effect of adoption of FIN 48 bypass the income statement and reported directly into retained earnings.	-$1.00m
Working note 2	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$108.20m
Working note 3	
Balance adjustments of retained earnings in 2008 (see the balance of retained earnings as per annual report 2008 & 2009)	-$215.40m
Working note 4	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$185.50m
Working note 5	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$379.10m
Working note 6	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$381.80m
Working note 7	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$788.80m
Working note 8	
Purchase of common stock bypass the income statement and reported directly into retained earnings.	-$98.60m

5.5 Conclusion

In this chapter, the evolution of clean surplus book value, earnings and OCI is examined. Assessments are undertaken to determine whether the accounting treatments mandated by standards explain the patterns observed. The patterns of OCI exhibited by firms and the elements reported in their financial statements are examined to illustrate the underlying causes of the behaviour of the OCI variable.

This study finds that, for Compustat firms as a whole and in most industry groupings, accumulated other losses are increasing and leading to a divergence of reported book value from clean surplus book value over time.

This study finds some cases where losses attributed to discontinuous operation go through retained earnings and are not reversed over time. This affects the earnings quality of firms.

The focus is on earnings quality with respect to accruals, which is one of limitations of the study. The higher the total accruals as a percentage of assets, the greater the likelihood that earnings quality is low. For example, if a large portion of unearned revenue is recognised as earnings today, then there will be less revenue recognition remaining for the future. Likewise, delaying bill payments today means that the company will show higher expenditures in the future.

Chapter 6: Discussion and Conclusion

6.1 Introduction

This chapter interprets the results reported in the previous chapter. Section 6.2 outlines empirical findings, including the behaviour of OCI, big bath, the movement of OCI losses through retained earnings, and the regular reversal of OCI items and its impact on reported book value. The implications and contributions of the study are discussed in Section 6.3 and Section 6.4, respectively. Section 6.5 outlines recommendations of the study. The chapter concludes with the study limitations in Section 6.6 and possible future research directions in Section 6.7.

6.2 Review of Empirical Findings

There are contradictory opinions regarding the presentation of OCI items, which might be used for earnings management or poor earnings quality. Researchers argue that the reporting of OCI items in shareholders' equity under SFAS No. 130 FASB, (1997) creates several issues, including a potential reduction in transparency and the predictive power of accounting earnings (O'Hanlon & Pope, 1999; Thinggaard et al., 2006; Kanagaretnam et al., 2009; Barker, 2004; Linsmeier et al., 1997). By considering these issues raised by stakeholders, FASB released ASU 2011-05 in June 2011 (FASB, 2011). FASB believes that this update increases the importance of OCI items and enhances transparency in disclosing comprehensive income (CI) and changes in OCI. However, researchers argue that new presentation of OCI items under this update creates confusion among financial statement users (Kim, 2016; Nishikawa et al., 2016), and that recycling timing and location of OCI items is not clear, affecting consistency, transparency and earnings quality (Linsmeier, 2016; Lin et al., 2017). With these challenges in mind, the importance of the FASB 2011-05 standard is located.

The position of FASB from 2011 takes the literature on Comprehensive Income back to firm performance with comments from them on broad considerations, expects that earnings quality has improved. This motivates the following research question: has earnings quality improved since 2011? The notion of clean surplus earnings is used as a baseline for understanding earnings. Clean surplus earnings are then compared to reported book value,

which includes OCI, with a focus on the FASB 2011-05 update. The following four subsections summarise the major empirical findings of the study.

6.2.1 Behaviours of Other Comprehensive Income

This thesis finds evidence that the accumulated sum of OCI of Compustat firms from 1995 to 2014 became increasingly negative over time and reached a very large sum by 2014. From an examination of major industries, all industries except those in the Agriculture, Forestry and Fishing (SIC 0–0999) and Public Administration (SIC 9000–9999) groups show the same pattern as the merged SICs, with a strongly increasing negative value over time. This means that the net book value of Compustat firm assets is noticeably lower than the net asset values from clean surplus principles.

This study also finds that reported book value is noticeably lower than clean surplus book value in the Manufacturing (SIC 3000–4000), Retail (5000–6000) and Financial and Service (SIC 7000–9000) categories. However, in Public Administration (SIC 9000–9999) firms, OCI is generally positive rather than negative. The overall result is that public administration is the only industry in which reported book values are consistently greater than the book values that would be expected based on income statements reflecting clean surplus principles.

This study finds cases where OCI gains and losses reverse (reclassify) in some years, but either partially or nor in a subsequent period, leading to a divergence of reported book value from clean surplus book value. This means that book value is reported lower than book value expected from the income statement, and that a firm's performance is overstated or undergoing declining earnings quality.

Unrealised OCI gains and losses are not fully reversed in some cases and can take a long time. This has implications for the debates that accruals have a finite adjustment of one to two years (Dechow et al., 2010; Dechow et al., 2011; Fairfield et al., 1996; Burgstahler et al., 2002; Dechow & Ge, 2006); that OCI gains and losses are transitory and reverse regularly (Linsmeier et al., 1997; Barker, 2004; Chambers et al., 2007; Yen et al., 2007; Bamber et al., 2010); and that accounting accrual estimates reverse in subsequent periods (Novy-Marx, 2013; Ince & Porter, 2006; Hou et al., 2011).

This study also finds support for the propositions that reversals take longer (Jones & Smith, 2011), that gains, and losses may not necessarily be transitory, and that certain OCI items recur over time (Elliott & Hanna, 1996; Francis et al., 1996; Cready et al., 2010).

6.2.2 Individual Case Studies Analysis

In the following subsections, the individual case studies are discussed. Few cases found earnings quality to be in decline before 2011. However, earnings quality appears to be worse after the FASB update in 2011. This conclusion is reached based on evidence discussed above and the 'big baths' (listed below), when movement of losses through retained earnings for ConocoPhillips and Motorola increased during and after 2011. These transactions are affecting earnings quality and are not reversing over time.

This study contains some case studies (e.g., Archer Daniels and Tejon Ranch) that produce good evidence of where unrealised gains and losses were reversed regularly, and the net book value of the firm's assets value are reported as expected from the income statement over the period assuming clean surplus principles.

This study also finds some cases (e.g., Home Depot and Crawford & Company) that produce evidence against clean surplus accounting, where reporting of the repurchase of common stock affects the patterns of OCI, reported book value and clean surplus book value.

6.2.2.1 big baths: Movement of OCI Losses Through Retained Earnings

This thesis finds evidence that the movement of losses attributed to discontinued operation go through retained earnings and gains through the statement of operation, indicating that these transactions are affecting earnings quality and are not reversing over time.

This study finds support for the proposition that the flow of OCI items through retained earnings may reduce the informativeness and predictive power of accounting earnings (Kanagaretnam et al., 2009), reduce transparency and visibility (Johnson et al., 1995), impair earnings quality and reduce the usefulness of income information (Biddle & Choi, 2006).

However, this has implications for the debate around whether the omission of transitory items from reported earnings enhances the persistence and quality of earnings (O'Hanlon & Pope, 1999) and improves the predictability and usefulness of reported earnings (Black, 2016).

6.2.2.1.1 Conoco Philips

Conoco Philips is one of the world's largest exploration and production companies since the merger of Conoco Inc. with Philips Petroleum Co. in 2002.

Examination of data for ConocoPhillips indicates that a write down of over US$18.8 billion in 2012 that was attributed to discontinued operations was directly reported in retained earnings. However, gains of about US$1 billion in 2012, US$1.1 billion in 2011 and US$5.3 billion in 2010 that were attributed to discontinued operation were reported in the income statement. This is not necessarily a problem with earnings management for Conoco Philips and some other firms analysed. In many instances, OCI can be identified with events and sets of transactions appear to be mandated by accounting standards. However, a problem pertains to earnings quality in the context of the clean surplus principle.

6.2.2.1.2 Motorola Solutions

Analysis of data for Motorola indicates that the loss of more than US$4 billion in 2011 that was attributed to discontinued operation bypassed the income statement and was directly reported in retained earnings; however, US$40 million of gains of the same nature were reported in the statement of operation.

The omission of this very large write down from anywhere in comprehensive income had a very significant effect on Motorola's pattern of income over time and gave a highly unrealistic picture of its long-term performance.

6.2.2.1.3 Duke Energy

Examination of data for Duke Energy indicates that losses attributed to discontinued operations of about US$4.5 billion in 2007 moved through retained earnings and is not reflected anywhere in comprehensive income. This may affect earnings quality of Duke

Energy. If this amount, which should have been included in the statement of comprehensive income, had a very significant effect on Duke Energy's income then this would have been reported.

Either the press was not interested in the finer points of the effect of writing-off previously optimistic variations in shareholder value, or it did not recognise or understand the significance of the way the reductions in retained earnings from discontinued operations altered the calculation of income. Duke Energy is an example of a firm whose earnings quality appeared to be decline before 2011.

Further investigations indicate that there were four different types of adjustments made in the OCI account of Duke Energy between 2006 and 2014. These adjustments were foreign currency translations, pension benefit plans, unrealised losses on marketable securities, and hedging activities. The foreign currency translation captures a largest portion of the OCI account, followed by the pension benefit plans. The largest foreign currency losses were reported in 2007, 2008, 2011 and 2013 (as per Table 5.3.9). Unrealised losses relating to marketable securities and hedging activities are usually reversed in the subsequent period.

6.2.2.2 Regular Reversal (Reclassification) of OCI Items

This study finds evidence of reversal (reclassification) of OCI gains and losses in the subsequent period in the case of Archer Daniels and Tejon Ranch. This means that the net book value of these firm's assets is reported as expected from the income statement assuming clean surplus principles. Regular reversal of OCI gains and losses in these firms is indicative of good earnings quality.

This study also finds support for the propositions that OCI gains and losses are transitory and reverse regularly (Linsmeier et al., 1997); that accruals have a finite adjustment of one to two years (Dechow et al., 2010; Dechow et al., 2011; Fairfield et al., 1996; Burgstahler et al., 2002; Dechow & Ge, 2006; Fairfield et al., 2009); and that recycling of OCI items occurs regularly (Barker, 2004; Chambers et al., 2007; Yen et al., 2007; Bamber et al., 2010).

Archer Daniels and Tejon Ranch provided good case studies for these findings.

6.2.2.2.1 Archer Daniels

This thesis finds evidence that unrealised gains and losses of OCI items for Archer Daniels reversed out in the subsequent period, leading to less difference between reported book value and clean surplus book value. For example, Archer Daniels's negative OCI was about US$1 billion in 2012, which fully reversed out in the following year (Panel A, Figure 5.3.26).

Four different types of adjustments were made to the OCI account over time. These adjustments were foreign currency translations, pension benefit plans, unrealised gains and losses of marketable securities, and hedging activities. The two most significant adjustments were pension benefit plans and foreign currency translations. Further analysis of Archer Daniels data indicates that the reversal of OCI gains and losses takes less time and that net book value is reported close to the net asset values that would be expected from earnings reported in the income statement. This indicates a lower possibility of earnings quality.

6.2.2.2.2 Tejon Ranch

This study finds evidence that the OCI of Tejon Ranch remained close to zero during most of the sample period, leading to less divergence between reported book value and clean surplus book value. It shows a lower possibility of poor earnings quality.

Six different types of adjustments were made to the OCI account between 2006 and 2014. Assuming the unrealised interest rate swap losses are cash flow hedges, the items appear to be mandated by accounting standards. The treatment of unrealised gains and losses on available for sale securities follows the rules in FAS No. 115 (FASB, 2006). The next three items relate to defined benefit pension schemes and supplemental employee retirement plans. The treatment of unrealised gains and losses from these plans and the pension schemes are covered by FAS Nos 87, 106 and 158 (FASB, 2006). The following section illustrates some evidences against clean surplus accounting.

6.2.2.3 Repurchase or Retirement of Treasury Stock: Movement Through Retained Earnings

This study includes cases (Home Depot and Crawford & Company) in which the movement of repurchase and retirement of treasury stock through retained earnings affects the pattern of OCI. It also leads to the divergence of reported book value from clean surplus book value.

FASB is flexible in reporting repurchase or retirement of common stock, permitting entities to report it in either additional paid in capital or in retained earnings (FASB, 2011).

Further analysis indicates that, if this amount is reported in additional paid in capital by adopting the FASB's first option (FASB, 2011), it affects neither the pattern of OCI nor the divergence of reported book value from clean surplus book value. Standard setters and the conceptual framework need to examine the flexibility of FASB standards to determine whether such flexibility address the issue of earnings quality.

This has implications for the proposition that clean surplus earnings is considered the summary performance measure in firm valuation (Bernard, 1995; Dechow et al., 1999; Walker, 1997), capturing 'transparency' and 'visibility' (Johnson & Swieringa, 1996; Johnson et al., 1995; Linsmeier et al., 1997), and improving the forecasting ability of upcoming earnings and cash flows (Kanagaretnam et al., 2009).

6.2.2.3.1 Home Depot

Analysis of data for Home Depot indicates that the reversal of OCI items is not the only factor that causes reported book value to diverge from clean surplus book value. The reporting of the retirement of treasury stock can also affect the pattern of OCI and reported book value. Reported book value remained close to clean surplus book value during the period when OCI was zero or close to zero. However, further analysis indicates that, in 2007, the retirement of treasury stock valued at about US$24 billion reflected in OCI (Panel A, Figure 5.3.50) significantly affected the patterns of reported book value and clean surplus book value. Book value was reported noticeably lower than clean surplus book value after 2007 (Figure 5.3.51).

As mentioned previously, this study finds some contradictory evidence, in the Home Depot and Crawford & Company case studies, of clean surplus accounting where earnings quality appears to be decline before 2011. However, there is also evidence in this study that earnings quality was worse after 2011.

6.2.2.3.2 Crawford & Company

Analysis of data for Crawford & Company shows that repurchase of common stock is reported directly into retained earnings after 2011, which increased the difference between reported book value and clean surplus book value (Figure 5.3.59). Further examination indicates that, if this amount is reported in additional paid in capital by adopting the FASB's first option (FASB, 2011) discussed above, it affects neither the pattern of OCI nor the divergence of reported book value from clean surplus book value.

6.3 Implications of Study

This study has several implications. First, there are implications for the 2011 standard. In some cases, large unrealised losses attributed to discontinuous operations are recognised through the equity section rather than the statement of comprehensive income after 2011. The omission of this very large write down from anywhere in comprehensive income had a very significant effect on a firm's pattern of income and resulted in a very unrealistic picture of the firm's long-term performance. This has implications for academic research, because losses are not going through income (clean surplus) and affecting the predictability of reported book value (Barker, 2004). The location of OCI gains and losses is not clear. Some OCI items moved through retained earnings however, some OCI items are moved through comprehensive income (Nishikawa et al., 2016; Schaberl & Victoravich, 2015; Lin et al., 2017). This study also has implications for auditors, with findings that companies are reporting gains and losses in contravention of FASB expectations.

Second, the reported book value of the companies studied is deviating from the theoretical clean surplus value. This means that the reporting of a firm's performance is overstated. This also means that the net book value of Compustat firms and many industry groupings are noticeably lower than the net asset values that would be expected from earnings reported in the income statement (i.e., assuming clean surplus principles in accounting measurement).

The implication of this is that the reported book value component of income reported in the profit and loss section of the statement of comprehensive income has for many years provided, and is still providing, an unrealistically optimistic picture of the financial performance of Compustat firms. The third implication of this study is that the accumulative sum of other losses indicates that reversal of the unrealised gains and losses is taking longer. Reversals of the prior period may be occurring; however, the present period recognition is larger and shows the AOCI increasing.

Fourth, this study has implications for securities exchanges and investment analysts who evaluate the earnings quality of firms over time. The comparison of reported book value and clean surplus book value provides a barometer to evaluate and, if necessary, investigate a firm's performance through its earnings quality.

6.4 Contributions of Study

This study contributes to the theoretical framework for earnings quality in the following ways. This study argues that clean surplus is a baseline against which reported earnings can be evaluated. Clean surplus income is considered the summary performance measure in firm valuation (Bernard, 1995; Dechow et al., 1999; Walker, 1997), the capture of 'transparency' and 'visibility' (Johnson & Swieringa, 1996; Johnson et al., 1995; Linsmeier et al., 1997) and the improvement of forecasting ability for upcoming earnings and cash flows (Kanagaretnam et al., 2009).

By using clean surplus as a baseline, this study contributes to the expectations of Ohlson (1995) that the assumptions in Ohlson (1995) model need to be clearly articulated to meet the needs of time series modelling.

This study also contributes to the literature by evaluating why the accumulative sum of other losses increases over time and may reverse over a longer period.

In addition, a contribution is made to the treatment of write downs or the "big bath", which affect earnings quality and reversal of OCI items are taking longer time. However, when exploring the firm Motorola further, the big bath occurred in 2011; more recent disclosures

reveal that Motorola's profitability and contribution to Lenovo are now being questioned. One suggestion is that the early detection of declining earnings quality may predict the decline of a business.

Since 2011, the appropriate treatment of writing down discontinuous operations through retained earnings remains a problem for standard setters. The movement of OCI items directly through retained earnings violate clean surplus principles and create several issues which include a potential reduction in the informativeness and predictive power of accounting earnings (Thinggaard et al., 2006; O'Hanlon & Pope, 1999; Kanagaretnam et al., 2009); an increase in reported earnings (Paton, 1934; Littleton, 1940); a reduction in transparency and visibility (Johnson et al., 1995; Linsmeier et al., 1997; Paton, 1934; Littleton, 1940);

6.5 Recommendation

It is recommended that FASB and IASB should consult with the main standard-setting bodies, including members from rating agencies, security analysts and accounting firms, and ask them to review the current framework, based on concerns raised in this and other studies; further, it is recommended that they should ensure that companies present their true economic position in their financial statements for investors or stakeholders.

6.6 Limitations

A limitation of this study is the focus on earnings quality with respect to accruals. To analyse the behaviour of OCI, the financial statements of ten firms from ten sectors are examined. These firms are limited in terms of the number that can be used for in-depth analysis.

6.7 Future Research Directions

Future research in earnings management persistence of earnings must consider earnings quality and the long-term reversals of non-discretionary write-off through the equity section. Future researchers can also investigate whether OCI reverses, and how the accruals capture the occurrence and reversals of OCI.

Arthur et al. (2019) analysed the relationship between OCI components and analysts' behaviour when forecasting earnings (net income) in Australia. Their Australian (IFR) OCI model can now be applied to US data in future research.

Finally, future research on earnings quality and analyst forecasts is required to understand how analysts respond to OCI since 2011.

REFERENCES

Accounting Principles Board. (1971). *Interest on Receivables and Payables* (Accounting Principles Board Opinion No. 21). American Institute of Certified Public Accountants.

Accounting Standard Board (1992). *Financial reporting standard (FRS) No. 3,* Reporting financial performance.

Archer Daniels (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/archer-daniels-midland-company

Arzac, E. R. (2005). *Valuation for mergers, buyouts and restructuring*.

Badertscher, B. A., Burks, J. J. & Easton, P. D. (2011). A convenient scapegoat: Fair value accounting by commercial banks during the financial crisis. *The Accounting Review, 87***,** 59–90.

Bamber, L. S., Jiang, J., Petroni, K. R. & Wang, I. Y. (2010). Comprehensive income: Who's afraid of performance reporting? *The Accounting Review, 85***,** 97–126.

Bao, B. H. & Bao, D. H. (2004). Income smoothing, earnings quality and firm valuation. *Journal of Business Finance & Accounting, 31***,** 1525–1557.

Barker, R. (2004). Reporting financial performance. *Accounting Horizons, 18***,** 157–172.

Barth, M. E. (1994). Fair value accounting: Evidence from investment securities and the market valuation of banks. *Accounting Review***,** *69*(1), 1–25.

Barth, M. E., Beaver, W. H. & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics, 31***,** 77–104.

Bartolini, L. & Cottarelli, C. (2001). Designing effective auctions for treasury securities. *Handbook of Fiscal Policy, 98***,** 1287.

Beneish, M. D. & Vargus, M. E. (2002). Insider trading, earnings quality, and accrual mispricing. *The Accounting Review, 77***,** 755–791.

Beresford, D. R. (1993). Frustrations of a standards setter. *Accounting Horizons, 7***,** 70.

Berkshire Hathaway (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/berkshire-hathaway

Bernard, V. L. (1995). The Feltham-Ohlson framework: Implications for empiricists. *Contemporary Accounting Research, 11***,** 733–747.

Bhamornsiri, S. & Wiggins, C. (2001). Comprehensive income disclosures. *The CPA Journal, 71***,** 54.

Bhattacharya, N., Desai, H. & Venkataraman, K. (2013). Does earnings quality affect information asymmetry? Evidence from trading costs. *Contemporary Accounting Research, 30***,** 482–516.

Biddle, G. C. & Choi, J.-H. (2006). Is comprehensive income useful? *Journal of Contemporary Accounting & Economics, 2***,** 1–32.

Black, D. E. (2016). Other comprehensive income: A review and directions for future research. *Accounting & Finance, 56***,** 9–45.

Bradshaw, M. T. & Sloan, R. G. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research, 40***,** 41–66.

Brauchle, G. J. & Reither, C. L. (1997). SFAS No. 130: Reporting comprehensive income. *The CPA Journal, 67***,** 42.

Burgstahler, D., Jiambalvo, J. & Shevlin, T. (2002). Do stock prices fully reflect the implications of special items for future earnings? *Journal of Accounting Research, 40***,** 585–612.

Cahan, S. F., Courtenay, S. M., Gronnewoller, P. L. & Upton, D. R. (2000). Value relevance of mandated comprehensive income disclosures. *Journal of Business Finance & Accounting, 27***,** 1233–1265.

Camisón-Zornoza, C., Lapiedra-Alcamí, R., Segarra-Ciprés, M. & Boronat-Navarro, M. (2004). A meta-analysis of innovation and organizational size. *Organization Studies, 25***,** 331–361.

Casabona, P. A. & Coville, T. (2014). Statement of comprehensive income: new reporting and disclosure requirements. *Review of Business, 35***,** 23–35.

Chambers, D. (2011). Comprehensive income reporting: FASB decides location matters. *CPA Journal, 81*(9), 22–25.

Chambers, D., Linsmeier, T. J., Shakespeare, C. & Sougiannis, T. (2007). An evaluation of SFAS No. 130 comprehensive income disclosures. *Review of Accounting Studies, 12***,** 557–593.

Claus, J. & Thomas, J. (2001). Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets. *The Journal of Finance, 56***,** 1629–1666.

Clout, V. J. & Willett, R. J. (2016). Earnings in firm valuation and their value relevance. *Journal of Contemporary Accounting & Economics, 12***,** 223–240.

Arthur, N., Clout, V.J., Huynh, T. and Mai, M., (2019). Components of other comprehensive income increase uncertainty and reduced analyst forecasting ability. Available at SSRN 3374623 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3374623

Conoco Philips (2012). *Annual financial report.* Retrieved November 23, 2018 from http://www.annualreports.com/Company/conocophillips

Cope, A. T., Johnson, L. T. & Reither, C. L. (1996). The call for reporting comprehensive income. *Financial Analysts Journal, 52***,** 7–12.

Crawford & Company (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/crawford-co

Cready, W., Lopez, T. J. & Sisneros, C. A. (2010). The persistence and market valuation of recurring nonrecurring items. *The Accounting Review, 85***,** 1577–1615.

Damanpour, F. (1992). Organizational size and innovation. *Organization Studies, 13,* 375–402.

Davies, M., Paterson, R. & Wilson, A. (1994). *Generally Accepted Accounting Practice in the United Kingdom.* London, UK: Macmillan.

Deangelo, L. E. (1986). Accounting numbers as market valuation substitutes: A study of management buyouts of public stockholders. *Accounting Review, 61*(3), 400–420.

Dechow, P. M. & Ge, W. (2006). The persistence of earnings and cash flows and the role of special items: Implications for the accrual anomaly. *Review of Accounting Studies, 11,* 253–296.

Dechow, P., GE, W. & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics, 50,* 344–401.

Dechow, P. M. & Schrand, C. M. (2004). Earnings quality. 1-152

Dechow, P. M., Ge, W., Larson, C. R. & Sloan, R. G. (2011). Predicting material accounting misstatements. *Contemporary Accounting Research, 28,* 17–82.

Dechow, P. M., Hutton, A. P. & Sloan, R. G. (1999). An empirical assessment of the residual income valuation model. *Journal of Accounting and Economics, 26,* 1–34.

Dechow, P. M., Sloan, R. G. & Sweeney, A. P. (1995). Detecting earnings management. *Accounting Review, 70*(2), 193–225.

Defond, M. L. (2010). Earnings quality research: Advances, challenges and future research. *Journal of Accounting and Economics, 50,* 402–409.

Dehning, B. & Ratliff, P. A. (2004). Comprehensive income: Evidence on the effectiveness of FAS 130. *The Journal of American Academy of Business, 4,* 228–232.

Dhaliwal, D., Subramanyam, K. & Trezevant, R. (1999). Is comprehensive income superior to net income as a measure of firm performance? *Journal of Accounting and Economics, 26,* 43–67.

Dong, M., Ryan, S. G. & Zhang, X.-J. (2011). *Preserving amortized costs within a fair-value-accounting framework: reclassification of gains and losses on available-for-sale securities upon realization* (Working Paper). Lausanne, Switzerland: University of Lausanne.

Du, N., Stevens, K. & McEnroe, J. (2015). The effects of comprehensive income on investors' judgments: An investigation of one-statement vs. two-statement presentation formats. *Accounting Research Journal, 28***,** 284–299.

Duke Energy Corporation (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/duke-energy- corporation.

Dyckman, T. R. & Smith, A. J. (1979). Financial accounting and reporting by oil and gas producing companies: A study of information effects. *Journal of Accounting and Economics, 1***,** 45–75.

Eaton, T. V., Easterday, K. E. & Rhodes, M. R. (2013). The presentation of other comprehensive income. *The CPA Journal, 83***,** 32.

Eckbo, B. E. (1986). Valuation effects of corporate debt offerings. *Journal of Financial Economics, 15***,** 119–151.

Elliott, J. A. & Hanna, J. D. (1996). Repeated accounting write-offs and the information content of earnings. *Journal of Accounting Research***,** *34*, 135–155.

Emrick, C., Wasden, M. & Young, R. (2006). Moody's approach to other comprehensive income items when calculating effective leverage for finance companies.

Ewert, R. & Wagenhofer, A. (2013). Accounting standards, earnings management, and earnings quality.

Fairfield, P. M., Kitching, K. A. & Tang, V. W. (2009). Are special items informative about future profit margins? *Review of Accounting Studies, 14***,** 204–236.

Fairfield, P. M., Sweeney, R. J. & Yohn, T. L. (1996). Accounting classification and the predictive content of earnings. *Accounting Review***,** *71*(3), 337–355.

Feltham, G. A. & Ohlson, J. A. (1995). Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research, 11***,** 689–731.

Financial Accounting Standard Board (1953). Accounting Research Bulletin (ABR), *Restatement and Revision of Accounting Research Bulletins.*

Financial Accounting Standard Board (1974). *Financial Statement No. 3,* Reporting accounting changes in interim financial statements-an amendment of APB opinion no. 28.

Financial Accounting Standard Board (1974). Summary of *Financial Accounting Statement (SFAS) No. 35, Accounting* and Reporting by Defined Benefit Pension Plans.

Financial Accounting Standard Board (1975*). Summary of Financial Accounting Statement (SFAS) No. 8,* Foreign Currency Transactions.

Financial Accounting Standards Board. (1975). *Proposed statement of financial accounting standards: Accounting for leases* (Exposure Draft: 26 August 1975). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standards Board. (1975). *Accounting for contingencies* (Statement of Financial Accounting Standards No. 5). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standard Board (1975*). Screening Committee on Emerging Problems,* Concern on marketable securities.

Financial Accounting Standard Board (1981). Summary of *Financial Accounting Statement (SFAS) No. 8,* Foreign Currency Transactions.

Financial Accounting Standard Board (1981b), Financial Statement No. 52, *Foreign Currency Translation,* paragraph 13

Financial Accounting Standard Board (1984). *Summary Financial Statement No. 1,* Disclosure of foreign currency translation information.

Financial Accounting Standard Board (1984). *Summary of Financial Accounting Statement (SFAS) No. 5,* Recognition and measurement in financial statement of business enterprises.

Financial Accounting Standard Board (1985). *Financial Statement No. 6,* Elements of financial statements: a replacement of FASB concept statement no. 3.

Financial Accounting Standard Board (1985b), Financial Statement No. 87, *Employers' Accounting for Pensions,* paragraph 37

Financial Accounting Standard Board (1985). Summary of *Financial Accounting Statement (SFAS) No. 88,* Employees 'Accounting for settlements and curtailments of defined benefits pension plans and for termination benefits.

Financial Accounting Standard Board (1987). *Statement of Accounting Standard AAS20A*, Foreign Currency Translation para 14, 119.

Financial Accounting Standards Board. (1987). *Accounting for Income Taxes* (Statement of Financial Accounting Standards No. 96). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standard Board (1989). *Summary* of *Financial Accounting Statement (SFAS) No. 89,* Financial reporting and changing prices.

Financial Accounting Standards Board. (1993). *Proposed statement of financial accounting standards: Accounting for stock-based compensation*. Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standards Board. (1997). *Disclosures about segments of an enterprise and related information* (Statement of Financial Accounting Standards No. 130). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standards Board. (1998). *Employers' disclosures about pensions and other post-retirement benefits: An amendment of equity statements 87, 88, and 106*

(Statement of Financial Accounting Standards No. 132). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standards Board. (2006). *Preliminary view: Conceptual framework for financial reporting: Objective of financial reporting and qualitative characteristics of decision-useful financial reporting information* (Financial Accounting Series No. 1260-001). Norwalk, CT: Financial Accounting Standards Board.

Financial Accounting Standard Board (2006), Financial Statement No. 115, Accounting for certain investments in debt and equity securities

Financial Accounting Standard Board (2006). *Statement of Financial Accounting Standard (SFAS) No. 158*. Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans.

Financial Accounting Standards Board. (2011). *Comprehensive income* (Topic 220), ASU 2011-05

Financial Accounting Standards Board. (2011). *Comprehensive income* (Topic 220), ASU 2011-12, 13-16

Financial Accounting Standards Board. (2011). *Retirement of Treasury Shares*, comment letter ASC 505-30-30-8 p3.

Financial Accounting Standards Board. (2013). *Comprehensive income* (Topic 220), ASU 2013-02

Foster, N. & Hall, N. L. (1996). Reporting comprehensive income. *The CPA Journal, 66***,** 16.

Francis, J., Hanna, J. D. & Vincent, L. (1996). Causes and effects of discretionary asset write-offs. *Journal of Accounting Research***,** *34*, 117–134.

Francis, J., Lafond, R., Olsson, P. M. & Schipper, K. (2004). Costs of equity and earnings attributes. *The Accounting Review, 79***,** 967–1010.

Frankel, R. & Lee, C. M. (1999). Accounting diversity and international valuation. *Ann Arbor, 1001***,** 48109–1234.

Goncharov, I. & Hodgson, A. (2011). Measuring and reporting income in Europe. *Journal of International Accounting Research, 10***,** 27–59.

Grinnell, D. J. & Norgaard, C. T. (1980). Reporting rules for marketable equity securities. *Financial Analysts Journal, 36***,** 69–74.

Henry, E. (2011). Presentation of comprehensive income: another (small) step toward convergence. *Journal of Corporate Accounting & Finance, 23***,** 85–90.

Hernandez, F. G. H. (2003). Derivatives and the FASB: Visibility and transparency? *Critical Perspectives on Accounting, 14***,** 777–789.

Hirst, D. E. & Hopkins, P. E. (1998). Comprehensive income reporting and analysts' valuation judgments. *Journal of Accounting Research, 36***,** 47–75.

Hodgson, A. & Russell, M. (2014). Comprehending comprehensive income. *Australian Accounting Review, 24***,** 100–110.

Home Depot (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/the-home-depot-inc

Hou, K., Karolyi, G. A. & Kho, B.-C. (2011). What factors drive global stock returns? *The Review of Financial Studies, 24***,** 2527–2574.

Hunton, J. E., Libby, R. & Mazza, C. L. (2006). Financial reporting transparency and earnings management (retracted). *The Accounting Review, 81***,** 135–157.

Ince, O. S. & Porter, R. B. (2006). Individual equity return data from Thomson Datastream: Handle with care! *Journal of Financial Research, 29***,** 463–479.

Isidro, H., O'Hanlon, J. & Young, S. (2004). Dirty surplus accounting flows: International evidence. *Accounting and Business Research, 34***,** 383–410.

Isidro, H., O'Hanlon, J. & Young, S. (2006). Dirty surplus accounting flows and valuation errors. *Abacus, 42***,** 302–344.

Johnson, L. T., Reither, C. L. & Swieringa, R. J. (1995). Toward reporting comprehensive income. *Accounting Horizons, 9***,** 128–137.

Johnson, L. T. & Swieringa, R. J. (1996). Derivatives, hedging and comprehensive income. *Accounting Horizons, 10***,** 109.

Jones, D. A. & Smith, K. J. (2011). Comparing the value relevance, predictive value, and persistence of other comprehensive income and special items. *The Accounting Review, 86***,** 2047–2073.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research***,** *29*(2), 193–228.

Jones, J. P. & Wilson, A. C. (2000). The effect of accounting for derivatives on other comprehensive income. *The CPA Journal, 70***,** 54.

Jordan, C. E. & Clark, S. J. (2014). Reporting preferences under the comprehensive income standard: Examining its use in practice. *The CPA Journal, 84***,** 34.

Kanagaretnam, K., Mathieu, R. & Shehata, M. (2009). Usefulness of comprehensive income reporting in Canada. *Journal of Accounting and Public Policy, 28***,** 349–365.

Ketz, J. E. (1999). Comprehensive income: What do the numbers disclose? *Journal of Corporate Accounting & Finance, 10***,** 79–96.

Kim, J. H. (2016). Presentation formats of other comprehensive income after accounting standards update 2011-05. *Research in Accounting Regulation, 28***,** 118–122.

Kimberly, J. R. & Evanisko, M. J. (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal, 24***,** 689–713.

Kirk, D. J. (1989). Reflections on a ‘reconceptualization of accounting’: A commentary on parts I-IV of Homer Kripke’s paper, ‘Reflections on the FASB’s Conceptual Framework for Accounting and on Auditing’. *Journal of Accounting, Auditing & Finance, 4***,** 83–105.

Kothari, S. P., Leone, A. J. & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics, 39***,** 163–197.

Laboratory CP (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/laboratory-corporation-of-america-holdings

Landsman, W. R., Miller, B. L., Peasnell, K. & Yeh, S. (2011). Do investors understand really dirty surplus? *The Accounting Review, 86,* 237–258.

Laux, C. & Leuz, C. (2010). Did fair-value accounting contribute to the financial crisis? *Journal of Economic Perspectives, 24,* 93–118.

Lee, Y. J., Petroni, K. R. & Shen, M. (2006). Cherry picking, disclosure quality, and comprehensive income reporting choices: The case of property-liability insurers. *Contemporary Accounting Research, 23,* 655–692.

Lin, S., Martinez, D., Wang, C. & Yang, Y.-W. (2017). Is other comprehensive income reported in the income statement more value relevant? The role of financial statement presentation. *Journal of Accounting, Auditing & Finance.* https://doi.org/10.1177/0148558X16670779

Linsmeier, T. J. (2016). Revised model for presentation in statement(s) of financial performance: Potential implications for measurement in the conceptual framework. *Accounting Horizons, 30,* 485–498.

Linsmeier, T. J., Gribble, J., Jennings, R. G. & Lang, M. H. (1997). An issues paper on comprehensive income. *Accounting Horizons, 11,* 120.

Lipe, R. C. (1986). The information contained in the components of earnings. *Journal of Accounting Research, 24,* 37–64.

Littleton A.C., (1940). The Integration of income and surplus statements. Journal of Accountancy (January), pp. 30-40.

Lubberink, M. & Willett, R. (2017). Why the fundamental relation between firm market and accounting values is log-linear. *SSRN Electronic Journal*. http://dx.doi.org/10.2139/ssrn.3062425

Luecke, R. W. (1998). How companies report income. *Journal of Accountancy, 185,* 45.

Maines, L. A. (1995). Judgment and decision-making research in financial accounting: A review and analysis. *Judgment and Decision-Making Research in Accounting and Auditing,* 76–101.

Maines, L. A. & McDaniel, L. S. (2000). Effects of comprehensive-income characteristics on nonprofessional investors' judgments: The role of financial-statement presentation format. *The Accounting Review, 75,* 179–207.

McVay, S. E. (2006). Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review, 81,* 501–531.

Melumad, N. D., Nissim, D. & McVay, S. E. (2010). Line-item analysis of earnings quality. *The Accounting Review, 85,* 1121–1122.

Miller, P. B. (1987). The new pension accounting (part 1). *Journal of Accountancy, 163,* 98.

Motorola Solutions Inc (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/motorola-solutions-inc

Moody's Corp (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/moodys-corp

Newberry, S. (2003). Reporting performance: Comprehensive income and its components. *Abacus, 39,* 325–339.

Nishikawa, I., Kamiya, T. & Kawanishi, Y. (2016). The definitions of net income and comprehensive income and their implications for measurement. *Accounting Horizons, 30,* 511–516.

Nobes, C. (2012). On the definitions of income and revenue in IFRS. *Accounting in Europe, 9,* 85–94.

Novy-Marx, R. (2013). The quality dimension of value investing. *Rnm. simon. rochester. edu,* 1–54.

O'Hanlon, J. F. & Pope, P. F. (1999). The value-relevance of UK dirty surplus accounting flows. *The British Accounting Review, 31,* 459–482.

Ohlson, J. A. (1995). Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research, 11***,** 661–687.

Ohlson, J. A. (1999). On transitory earnings. *Review of Accounting Studies, 4***,** 145–162.

Pandit, G. M. & Phillips, J. J. (2004). Comprehensive income: Reporting preferences of public companies. *The CPA Journal, 74***,** 40.

Paton, W. A. (1934). Shortcomings of present-day financial statements. *Journal of Accountancy, 57***,** 108–132.

Penman, S. H. & Zhang, X.-J. (2002). Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review,* 77**,** 237–264.

Rees, L. L. & Shane, P. B. (2012). Academic research and standard-setting: The case of other comprehensive income. *Accounting Horizons, 26***,** 789–815.

Robinson, L. E. (1991). The time has come to report comprehensive income. *Accounting Horizons, 5***,** 107.

Schaberl, P. D. & Victoravich, L. M. (2015). Reporting location and the value relevance of accounting information: The case of other comprehensive income. *Advances in Accounting, 31***,** 239–246.

Schipper, K. & Vincent, L. (2003). Earnings quality. *Accounting horizons, 17***,** 97–110.

Shi, L., Wang, P. & Zhou, N. (2017). Enhanced disclosure of other comprehensive income and increased usefulness of net income: The implications of Accounting Standards Update 2011-05. *Research in Accounting Regulation, 29***,** 139–144.

Sloan, R. G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *Accounting Review***,** 289–315.

Smith, P. A. & Reither, C. L. (1996). Comprehensive income and the effect of reporting it. *Financial Analysts Journal, 52***,** 14–19.

Stark, A. W. (1997). Linear information dynamics, dividend irrelevance, corporate valuation and the clean surplus relationship. *Accounting and Business Research, 27***,** 219–228.

Streaser, S., Sun, K. J., Zaldivar, I. P. & Zhang, R. (2014). Summary of the new FASB and IASB revenue recognition standards. *Review of Business, 35***,** 7.

Tarca, A., Hancock, P., Woodliff, D., Brown, P., Bradbury, M. & Van Zijl, T. (2008). Identifying decision useful information with the matrix format income statement. *Journal of International Financial Management & Accounting, 19***,** 184–217.

Tejon Ranch (2012). *Annual financial report*. Retrieved November 23, 2018 from http://www.annualreports.com/Company/tejon-ranch-co

Thinggaard, F., Wagenhofer, A., Evans, L., Gebhardt, G., Hoogendoorn, M., Marton, J., … Peasnell, K. (2006). Performance reporting–the IASB's proposed formats of financial statements in the exposure draft of IAS 1. *Accounting in Europe, 3***,** 35–63.

Van Cauwenberge, P. & De Beelde, I. (2007). A critical note on empirical comprehensive income research. *Betriebswirftschaftliche Forschung und Praxis, 62***,** 82–101.

Veltri, S. & Ferraro, O. (2018). Does other comprehensive income matter in credit-oriented systems? Analyzing the Italian context. *Journal of International Accounting, Auditing and Taxation, 30***,** 18–31.

Walker, M. (1997). Clean surplus accounting models and market-based accounting research: a review. *Accounting and Business Research, 27***,** 341–355.

Wang, Y., Buijink, W. & Eken, R. (2006). The value relevance of dirty surplus accounting flows in the Netherlands. *The International Journal of Accounting, 41***,** 387–405.

Watts, R. L. (2003). Conservatism in accounting part II: Evidence and research opportunities. *Accounting Horizons, 17***,** 287–301.

Wyatt, A. (1991). The SEC says: Mark to market. *Accounting Horizons, 5***,** 80–84.

Yen, A. C., Hirst, D. E. & Hopkins, P. E. (2007). A content analysis of the comprehensive income exposure draft comment letters. *Research in Accounting Regulation, 19***,** 53–79.

Zeff, S. A. (2002). 'Political' lobbying on proposed standards: A challenge to the IASB. *Accounting Horizons, 16***,** 43–54.

Appendix I

Table I.1: (PANEL A): Income Statement of ConocoPhillips 2010-2012

Consolidated Income Statement **ConocoPhillips**	US$m	US$m	US$m
Years Ended December 31	**2012**	**2011**	**2010**
Revenues and Other			
Comprehensive Income			
Sales and Other Operating Revenues	57,967	64,196	56,215
Equity in earnings of affiliates	1,911	1,239	1,376
Gain on dispositions	1,657	370	5,563
Other Comprehensive Income	469	264	181
Total Revenues and Other Comprehensive	**62,004**	**66,069**	**63,335**
Income			
Costs and Expenses			
Purchased commodities	25,232	29,797	24,854
Production and operating expenses	6,793	6,426	6,227
Selling, general and administrative expenses	1,106	865	809
Exploration expenses	1,500	1,038	1,125
Depreciation, depletion and amortization	6,580	6,827	8,004
Impairments	680	321	81
Taxes other than income taxes	3,546	3,999	2,788
Accretion on discounted liabilities	394	422	409
Interest and debt expense	709	954	1,167
Foreign currency transaction (gains) losses	41	24	-4
Total Costs and Expenses	**46,581**	**50,673**	**45,460**
Income from continuing operations before income taxes	15,423	15,396	17,875
Provision for income taxes	7,942	8,208	7,570
Income from Continuing Operations	7,481	7,188	10,305
Income from discontinued operations*	1,017	5,314	1,112
Net income	**8,498**	**12,502**	**11,417**
Less: net income attributable to non-controlling interests	-70	-66	-59
Net Income Attributable to ConocoPhillips	**8,428**	**12,436**	**11,358**
Amounts Attributable to ConocoPhillips Common Shareholders:			
Income from continuing operations	7,413	7,127	10,251
Income from discontinued operations	1,015	5,309	1,107
Net Income	**8,428**	**12,436**	**11,358**
Basic			
Continuing operations	5.95	5.18	6.93
Discontinued operations	0.82	3.86	0.75
	6.77	**9.04**	**7.68**
Diluted			
Continuing operations	5.91	5.14	6.88
Discontinued operations	0.81	3.83	0.74
	6.72	**8.97**	**7.62**
Dividends Paid Per Share of Common Stock	**2.64**	**2.64**	**2.15**
Average Common Shares Outstanding (in thousands)			
Basic	1,243,799	1,375,035	1,479,330
Diluted	1,253,093	1,387,100	1,491,067

See notes to Consolidated Financial Statements.

Table I.1 (Panel B): Statement of Changes in Equity ConocoPhillips 2012

	Par Value	Common Stock Capital in Excess of Par	Treasury Stock	Grantor Trusts	Accum. Other Comprehensive Income (Loss)	Unearned Employee Compensation	Retained Earnings	Non-Controlling Interests	Total
December 31, 2011	**17**	**44,725**	**-31,787**		**3,246**	**-11**	**49,049**	**510**	**65,749**
Net income							8,428	70	8,498
Other comprehensive income					627				627
Dividends paid							-3,278		-3,278
Repurchase of company common stock			-5,098						-5,098
Distributions to non-controlling interests and other								-109	-109
Distributed under benefit plans	1	599	105						705
Recognition of unearned compensation						11			11
Separation of Downstream business					214		-18,880	-31	-18,697
Other							19		19
December 31, 2012		**45,324**	**-36,780**		**4,087**	**-**	**35,338**	**440**	**48,427**

Table I.2 (Panel A): Archer Daniels: Statement of Shareholders 'equity (2011-2012)

Amount in millions	Common stock Share	Common stock Amount	Reinvested earnings	AOCI income/loss	Non-Controlling interest	Total Shareholder equity
Balance June 30, 2010 ($)	**639**	**5,151**	**10,357**	**-899**	**22**	**14,631**
Comprehensive income						
Net earnings			2,036		-18	
Other comprehensive income				1,075		3,093
Total comprehensive income						
Cash dividend			-395			-395
Shares issued related to equity unit conversion	44	1,750				1,750
Treasury stock	-9	-301				-301
Stock compensation expense		47				47
Acquisition of non- controlling interests		-26			25	-1
Other	2	15	-2		1	14
Balance June 30, 2011 ($)	**676**	**6,636**	**11,996**	**176**	**30**	**18,838**
Comprehensive income						
Net earnings			1,223		19	
Other comprehensive income				-1,083	-6	
Total comprehensive income						153
Cash dividend			-455			-455
Treasury stock	-18	-527				-527
Stock compensation expense		48				48
Acquisition of no controlling interests		-40			-14	-54
Non-controlling interests previously associated with mandatorily redeemable instruments			10		174	184
Other	1	-15			-3	-18
Balance June 30, 2012 ($)	**659**	**6,102**	**12,774**	**-907**	**200**	**18,169**

Table I.2 (Panel B): Archer Daniels: Statement of Shareholders 'equity (2012-2013)

Amount in millions except share amount	Common stock		Reinvested earnings	AOCI income/loss	Non-Controlling interest	Total Shareholder equity
	Share	Amount				
Balance June 30, 2012 ($)	**642**	**5,568**	**12,784**	**-907**	**357**	**17,802**
Net earnings			692		2	
Other comprehensive income				457	8	
Total comprehensive income						1,159
Cash dividend			-230			-230
Stock compensation expense		30				30
Other		2			1	3
Balance December 31, 2012 ($)	**1301**	**11,702**	**26,020**	**-1,357**	**568**	**36,933**
Comprehensive income						
Net earnings			1,342		12	
Other comprehensive income				393	-9	
Total comprehensive income						1,738
Cash dividend			-501			-501
Treasury stock	-3	-101				-101
Stock compensation expense		43				43
Non-controlling interests associated with mandatorily redeemable instruments					-180	-180
Other	3	60			4	64
Balance December 31, 2013 ($)	**1301**	**11,704**	**26,861**	**-964**	**395**	**37,996**

Table I.2 (Panel C): Archer Daniels: Statement of earnings

(In millions, except share amounts)	Year ended December 31		Six months ended December 31		Year ended June 30	
	2013	**2012**	**2012**	**2011**	**2012**	**2011**
Revenue ($)	89,804	90,559	46,729	45,208	89,038	80,676
Cost of products sold	85,915	86,936	44,927	43,361	85,370	76,376
Gross Profit	**3,889**	**3,623**	**1,802**	**1,847**	**3,668**	**4,300**
Selling, general and administrative expenses 1	1,759	1,665	869	830	1,626	1,611
Asset impairment, exit, and restructuring costs	259	243	146	352	449	0
Interest expense	413	445	213	209	441	482
Equity in earnings of unconsolidated affiliates	-411	-476	-255	-251	-472	-542
Interest income	-102	-109	-59	-62	-112	-136
Other (income) expense - net	-53	-126	-109	-12	-29	-130
Earnings Before Income Taxes	**2,024**	**1,981**	**997**	**781**	**1,765**	**3,015**
Income taxes	670	589	303	237	523	997
Net Earnings Including no controlling Interests	**1,354**	**1,392**	**694**	**544**	**1,242**	**2,018**
Less: Net earnings (losses) attributable to no controlling interests	12	17	2	4	19	-18
Net Earnings Attributable to Controlling Interests	**1,342**	**1,375**	**692**	**540**	**1,223**	**2,036**
Average number of shares outstanding – basic	661	660	660	669	665	642
Average number of shares outstanding – diluted	663	662	661	670	666	654
Basic earnings per common share	2.03	2.08	1.05	0.81	1.84	3.17
Diluted earnings per common share	2.02	2.08	1.05	0.81	1.84	3.13

Table I.3 (Panel A): Motorola Solutions: Statement of Shareholders' Equity (2007-2008)

In millions except share amount	Share	Non- Owner change in equity CS and additional paid in capital	Available for sale securities	Foreign currency transaction	Pension benefit plan	Other items net of tax	Retained earnings	Non-controlling interest	Comprehensive income
Balance December 31, 2010($)	**337.2**	**8,647**	**12**	**-126**	**-2,108**	**0**	**4,460**	**102**	
Net earnings/loss							1,158	-6	1,152
Net unrealized losses on securities (net of tax of $58)			-2						-2
Foreign currency translation adjustments (net of tax of $3)				19					19
Amortization of retirement benefits adjustments (net of tax of $39)					132				132
Mid-Year re-measurement of retirement benefits					-77				-77
Year-end and other retirement adjustments (net of tax of $328)					-723				-723
Issuance of common stock and stock options exercised	9.4	152							
Share repurchase program	-26.6	-1,110							
Excess tax benefits form shares-based compensation		42							
Share based compensation expense		181							
Net loss on derivative instruments						-3			-3
Distribution of Motorola Mobility							-4,460		
Dividend paid to non-controlling interest								-8	
Sales of non-controlling interest								-27	
Purchase of non-controlling interest								-1	
Reclassification of share-based awards		-2							
Dividends declared ($0.20 per share)							-142		
Balance December 31, 2011 ($)	**320**	**7,074**	**1**	**-106**	**-2,768**	**-3**	**1,016**	**60**	**498**

Table I.3 (Panel B): Motorola Solutions: Consolidated Statement of Operation

	Year Ended December 31		
(In millions, except per share amount)	**2,011**	**2,010**	**2,009**
Net sales from products	6,068	5,616	5,026
Net sales from services	2,135	2,001	1,921
Net sales	8,203	7,617	6,947
Cost of product sales	2,723	2,523	2,221
Cost of service sales	1,334	1,282	1,249
Costs of sales	**4,057**	**3,805**	**3,470**
Gross margin	4,146	3,812	3,477
Selling, general and administrative expenses	1,912	1,874	1,662
Research and development expenditures	1,035	1,037	993
Other charges	341	150	255
Operating earnings	858	751	567
Other Comprehensive Income (expense):			
Interest expense, net	-74	-129	-133
Gains on sales of investments and businesses, net	23	49	108
Other	-69	-7	91
Total Other Comprehensive Income (expense)	-120	-87	66
Earnings from continuing operations before income taxes	738	664	633
Income tax expense (benefit)	-3	403	188
Earnings from continuing operations	741	261	445
Earnings (loss) from discontinued operations, net of tax	411	389	-473
Net earnings (loss)	1,152	650	-28
Less: Earnings (loss) attributable to non-controlling interests	-6	17	23
Net earnings (loss) attributable to Motorola Solutions, Inc.	1,158	633	-51
Amounts attributable to Motorola Solutions, Inc. common shareholders:	**747**	**244**	**422**
Earnings from continuing operations, net of tax	411	389	-473
Net earnings (loss)	**1,158**	**633**	**-51**
Earnings (loss) per common share:			
Basic:			
Continuing operations	2.24	0.73	1.29
Discontinued operations	1.23	1.17	-1.45
	3.47	1.90	-0.16
Diluted:			
Continuing operations	2.20	0.72	1.28
Discontinued operations	1.21	1.15	-1.43
	3.41	1.87	-0.15
Weighted average common shares outstanding:			
Basic	333.80	333.30	327.90
Diluted	339.70	338.10	329.90
Dividends paid per share	0.22	0.00	0.35

Table I.4 (Panel A): Duke Energy Statement of Shareholders 'equity (2007)

				Non-Owner change in equity					
	Share	Common Stock	Additional paid in capital	Retained earnings	Foreign Currency Translation Adjustments, Net of Tax	Net gain/losses in cash flow hedging	Others	Pension and OPEB adjustments related to AOCI	Total
Balance December 31, 2006 ($)	**1,257**	**1**	**19,854**	**5,652**	**949**	**-45**	**2**	**-311**	**26,102**
Net income				1,500					1,500
Other comprehensive income									
Foreign Currency Translation Adjustments, Net of Tax					200				200
Net gain/losses in cash flow hedging						-14			-14
Reclassification into earnings from cash flow hedges						-1			-1
SFAS No. 158 amortization								14	14
SFAS No. 158 net actuarial gain								96	96
Other								1	1
Total comprehensive income									1,796
Adoption of FIN 48				-25					-25
Adoption of SFAS No. 158—measurement date provision				-28				-22	**-50**
Distribution of Spectra Energy to shareholders				-4,612	-1,156	6		148	-5,614
Dividend reinvestment and employee benefits	5		79						79
Common stock dividend				-1,089					-1,089
Balance December 31, 2007 ($)	**1,262**	**1**	**19,933**	**1,398**	**-7**	**-54**	**2**	**-74**	**21,199**

Table I.4 (Panel B): Duke Energy: Consolidated Statement of Operation

(In millions, except per share amount)	Year ended December 31	
	2,007	2,006
Operating Revenue		
Regulated electric	8,976	7,678
Non-regulated electric, natural gas, and other	3,024	2,542
Regulated natural gas	720	387
Total operating revenues	**12,720**	**10,607**
Operating expenses		
Fuel used in electric generation and purchased power—regulated	2,602	2,270
Fuel used in electric generation and purchased power—non-regulated	1,344	1,102
Cost of natural gas and coal sold	557	339
Operation, maintenance and other	3,324	3,420
Operation, maintenance and other	1,746	1,545
Property and other taxes	649	534
Impairment charges	0	0
Total operating expenses	**10,222**	**9,210**
Gains on Sales of Investments in Commercial and Multi-Family Real Estate		201
Gains (Losses) on Sales of Other Assets and Other, net	-5	223
Operating Income	2,493	1,821
Other Comprehensive Income and Expenses		
Equity in earnings (loss) of unconsolidated affiliates	157	123
Losses on sales and impairments of equity investments	0	-20
Other Comprehensive Income and expenses, net	271	251
Total Other Comprehensive Income and expenses	**428**	**354**
Interest Expense	685	632
Minority Interest (Benefit) Expense	2	13
Income from Continuing Operations Before Income Taxes	2,234	1,530
Income Tax Expense from Continuing Operations	712	450
Income from Continuing Operations	**1,522**	**1,080**
Income (Loss) from Discontinued Operations, net of tax	-22	783
Income Before Extraordinary Items	**1,500**	**1,863**
Extraordinary Items, net of tax		
Net Income	**1,500**	**1,863**

Table I.5 (Panel A): Details of other comprehensive income account per Home Depot's financial statements

In millions (US$)	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**
Other comprehensive income/(loss):									
Foreign currency translation adjustments	-510	-329	100	-143	206	426	-831	455	-77
Foreign currency translation adjustments, net of tax	**-510**	**-329**	**100**	**-143**	**206**	**426**	**-831**	**455**	**-77**
Cash hedging net of tax	11	-12	5	5	-116	11	-1	-10	-22
Hedging activities, net of tax	**11**	**-12**	**5**	**5**	**-116**	**11**	**-1**	**-10**	**-22**
Other	**1**	**-10**	**-1**	**-14**	**-7**	**2**			
Other comprehensive income/(loss)	**-498**	**-351**	**104**	**-152**	**83**	**439**	**-832**	**445**	**-99**
Other comprehensive income/(loss) b/f	46	397	293	445	362	-77	755	310	409
Other comprehensive income/(loss) c/f	-452	46	397	293	445	362	-77	755	310

Source Annual Report Home Depot 2008, 2011, 2014 http://www.annualreports.com/Company/the-home-depot-inc

Table I.6 (Panel A): Crawford & Company Statement of Shareholders 'equity (2006-2007)

In thousands	Common Stock		Non-Owner change in equity				
	Class A Non-Voting	**Class B Non-Voting**	**Unearned Stock based compensation**	**Additional paid in capital**	**Retained earnings**	**Accumulated other comprehensive income**	**Total shareholders' Investment**
Balance December 31, 2005 ($)	**24293**	**24697**	**-37**	**6,311**	**2,02,351**	**-78,584**	**1,79,031**
Comprehensive income:							
Net income					15,011		15,011
Currency translation adjustments, net						3,857	3,857
Accrued retirement liabilities adjustment, net of $2,871 tax						12,178	12,178
Total comprehensive income							**31046**
Cash dividends paid					-8,869		-8,869
SFAS 123R adoption reclassification			37	-37			
Impact of SFAS 158 adoption, net of $(59) tax						-97	-97
Stock-based compensation costs				3,567			3,567
Sale of South Africa subsidiary stock					-602		-602
Shares issued in connection with purchase of e-Triage	843			4,320			5,163
Shares issued in connection with stock-based compensation plans	605			1,307			1,912
Balance December 31, 2006 ($)	**25741**	**24697**	**0**	**15,468**	**2,07,891**	**-62,646**	**2,11,151**
Comprehensive income:							
Net income					16,116		16,116
Currency translation adjustments, net						16,382	16382
Accrued retirement liabilities adjustment, net of $5,556 tax						9,460	9,460
Interest-rate swap, net of $(1,410) tax						-2,463	-2,463
Total comprehensive income							**39,495**
Impact of FIN 48 adoption					-214		-214
Stock-based compensation costs				2,929			2,929
Shares issued in connection with stock-based compensation plans	197			539			736
Other equity transactions	-3			121			118
Balance December 31, 2007 ($)	**25935**	**24697**	**0**	**19,057**	**2,23,793**	**-39,267**	**254,215**

Table I.6 (Panel B): Crawford & Company Statement of Shareholders 'equity (2008)

In thousands	Common Stock		Non-Owner change in equity				
	Class A Non-Voting	**Class B Non-Voting**	**Unearned Stock based compensation**	**Additional paid in capital**	**Retained earnings**	**Accumulated other comprehensive income**	**Total shareholders' Investment**
Balance December 31, 2007 ($)	**25935**	**24697**		**19,057**	**2,23,793**	**-39,267**	**2,54,215**
Comprehensive loss:							
Net income					32,259		32,259
Currency translation adjustments, net						-37,921	-37,921
Accrued retirement liabilities adjustment, net of $(46,253) tax						-80,639	-80,639
Interest-rate swap, net of $376 tax						-822	-822
Total comprehensive loss							**-87,123**
Impact of SFAS 158 adoption, net of $48 and $277 tax					94	492	586
Stock-based compensation costs				5,858			5,858
Shares issued in connection with stock-based compensation plans	593			1,443			1,443
Other equity transactions	-5			-16			-16
Balance December 31, 2008 ($)	**26523**	**24697**		**26,342**	**2,56,146**	**-1,58,157**	**175,551**

Table I.6 (Panel C): Crawford & Company Statement of Shareholders 'equity (2012-2014)

In thousands	Common Stock		Non-Owner change in equity				
	Class A Non-Voting	**Class B Non-Voting**	**Non-controlling Interest**	**Additional paid in capital**	**Retained earnings**	**Accumulated other comprehensive income**	**Total shareholders' Investment**
Balance at December 31, 2011	**29086**	**24697**	**4,816**	**33,969**	**2,09,323**	**-1,63,603**	**1,38,288**
Net income			866		48,888		49,754
Other comprehensive income/loss			-89			-35,878	-35,967
Cash dividends paid					-9,880		**-9,880**
Stock-based compensation				3,660			3,660
Repurchases of common stock	-607	-7			-2,226		-2,840
Shares issued in connection with stock-based compensation plans	856			-1,643			-787
Change in no controlling interest due to acquisition of controlling interest			436	-436			0
Dividends paid to no controlling interests			-429				-429
Balance December 31, 2012 ($)	**29335**	**24690**	**5,600**	**35,550**	**2,46,105**	**-1,99,481**	**1,41,799**
Net income			358		50,978		51,336
Other comprehensive income/loss			-49			20,271	20,222
Cash dividends paid					-8,840		-8,840
Stock-based compensation				3,835			3,835
Repurchases of common stock	-553				-3,078		-3,631
Shares issued in connection with stock-based compensation plans	1093			-100			993
Change in no controlling interest due to acquisition of controlling interest			2,188				2,188
Dividends paid to no controlling interests			-369				-369
Balance December 31, 2013 ($)	**29875**	**24690**	**7,728**	**39,285**	**2,85,165**	**-1,79,210**	**2,07,533**
Net income			484		30,624		31,108
Other comprehensive income/loss			-397			-42,748	-43145
Cash dividends paid					-11,717		-11,717
Stock-based compensation				1,189			1,189
Repurchases of common stock	-409				-2,981		-3,390
Shares issued in connection with stock-based compensation plans	1031			-1,857			-826
Change in no controlling interest due to acquisition of controlling interest			-638				-638
Dividends paid to no controlling interests			-761				-761
Balance December 31, 2014 ($)	30497	24690	6,416	38,617	3,01,091	-2,21,958	1,79,353

Table I.6 (Panel D): Crawford & Company: Consolidated Statement of Operation

(In thousands, except per share amount)	Year Ended December 31 2014	2013	2012
Revenues from Services:			
Revenues before reimbursements	1,142,851	1,163,445	1,176,717
Reimbursements	74,112	89,985	89,421
Total Revenues	**1,216,963**	**1,253,430**	**1,266,138**
Costs and Expenses:			
Costs of services provided, before reimbursements	840,702	846,442	846,638
Reimbursements	74,112	89,985	89,421
Total costs of services	**914,814**	**936,427**	**936,059**
Selling, general, and administrative expenses	237,880	232,307	228,411
Corporate interest expense, net of interest income of $781, $768, and $967, respectively	6,031	6,423	8,607
Special charges and credits			11,332
Total Costs and Expenses	**1,158,725**	**1,175,157**	**1,184,409**
Other Comprehensive Income	1,650	2,829	1,711
Income Before Income Taxes	59,888	81,102	83,440
Provision for Income Taxes	28,780	29,766	33,686
Net Income	**31,108**	**51,336**	**49,754**
Net Income Attributable to Non-controlling Interests	-484	-358	-866
Net Income Attributable to Shareholders of Crawford & Company	30,624	50,978	48,888
Earnings Per Share - Basic:			
Class A Common Stock	0.58	0.95	0.92
Class B Common Stock	0.52	0.91	0.88
Earnings Per Share - Diluted:			
Class A Common Stock	0.57	0.93	0.91
Class B Common Stock	**0.52**	**0.90**	**0.87**
Weighted-Average Shares Used to Compute Basic Earnings Per Share:			
Class A Common Stock	30,237	29,853	29,536
Class B Common Stock	24,690	24,690	24,693
Weighted-Average Shares Used to Compute Diluted Earnings Per Share:			
Class A Common Stock	30,983	30,855	30,272
Class B Common Stock	24,690.00	24,690.00	24,693.00
Cash Dividends Per Share:			
Class A Common Stock	0.24	0.18	0.20
Class B Common Stock	0.18	0.14	0.16

Table I.7 (Panel A): Moody's Statement of Shareholders 'equity (2007)

	Common Stock				Treasury stock				
Amount in millions, except per share data	Shares	Amount	Capital Surplus	Retained earnings	Shares	Amount	Accumulated OCI	Total shareholder equity'	Comprehensive income
Balance December 31, 2006 ($)	342.9	3.4	345.7	2091.4	-64.3	-2264.7	-8.4	167.4	
Net income				701.5				701.5	701.5
Dividends				-88.4				-88.4	
Amounts recognized upon implementation of FIN 48				-43.4				-43.4	
Proceeds from stock plans, Including excess tax benefits			92					92	
Stock-based compensation			94.6					94.6	
Net treasury stock activity			-144.4		-27.2	-1586.9		-1731.3	
Currency translation adjustment (net of tax of $5.5 million)							12.9	12.9	12.9
Net actuarial gains and prior service costs (net of tax of $5.9 million)							7.8	7.8	7.8
Amortization and recognition of prior service cost and actuarial losses							3.4	3.4	3.4
Unrealized loss on cash flow hedges							-0.1	-0.1	-0.1
Balance December 31, 2007 ($)									**725.5**

Table I.7 (Panel B): Moody's Consolidated Statement of Earnings'

	Fiscal Year Ended		
amounts in millions, except per share data	2008	2007	2006
Revenue	1,755.40	2,259.00	2,037.10
Expenses			
Operating	493.30	584.00	539.40
Selling, general and administrative	441.3	451.1	359.3
Restructuring	-2.50	50	
Depreciation and amortization	75.1	42.9	39.5
Gain on sale of building			-160.6
Total expenses	1007.2	1128	777.6
Operating income	748.2	1131	1259.5
Interest income (expense), net	-52.2	-24.3	3
Other non-operating income (expense), net	29.8	10	-2
Non-operating income (expense), net	-22.4	-14.3	1
Income before provision for income taxes	725.8	1116.7	1260.5
Provision for income taxes	268.2	415.2	506.6
Net income	457.6	701.5	506.6
Earnings per share			
Basic	1.89	2.63	2.65
Diluted	1.87	2.58	2.58
Weighted average shares outstanding			
Basic	242.4	266.4	284.2
Diluted	245.3	272.2	291.9

Table I.8 (Panel A): Laboratory CPO Statement of Shareholders 'equity (2007-2008)

Amount in millions, except per share data	Common Stock	Paid in capital	Retained earnings	Treasury stock	Unearned stock compensation	Accumulated OCI	Total Shareholder equity
Balance January 29, 2006 ($)	14.4	1027.7	1767.9	-891.6		58.7	1977.1
Comprehensive earnings:							
Net Earnings			476.8				476.8
Other comprehensive earnings:							
Foreign currency translation adjustments						96.9	96.9
Net benefit plan adjustments						4	4
Tax effect of other comprehensive loss adjustments						-39.6	-39.6
Comprehensive earnings							**538.1**
Issuance of common stock under employee stock plans	0.1	77.5					77.5
Surrender of restricted stock awards				-5.5			-5.5
Adoption of FIN 48		0.5	-1				0.5
Conversion of zero-coupon convertible debt		0.7					0.7
Stock compensation		35.4					35.4
Income tax benefit from stock options exercised		26.6					26.6
Purchase of common stock	-1.3	-922.9					-924.2
Balance February 8, 2007 ($)	**13.2**	**245.5**	**2243.7**	**-897.1**		**120**	**1725.3**
Comprehensive earnings:							
Net Earnings			464.5				464.5
Other comprehensive earnings:							
Foreign currency translation adjustments						-129.6	-129.6
Net benefit plan adjustments						-81	-81
Interest rate swap adjustments						-13.5	-13.5
Tax effect of other comprehensive loss adjustments						87.4	87.4
Comprehensive earnings							**327.8**
Issuance of common stock under employee stock plans	0.1	64.3					64.4
Surrender of restricted stock awards				-32.7			-32.7
Adoption of FIN 48							
Conversion of zero-coupon convertible debt		0.1					0.1
Stock compensation		36.2					36.2
Value of minority interest put		-123					-123
Income tax benefit from stock options exercised		20.8					20.8
Purchase of common stock	-0.5	-221.9	-108.2				-330.6
Balance February 8, 2008 ($)	**12.8**	**22**	**2600**	**-929.8**		**-16.7**	**1688.3**

Table I.8 (Panel B) Laboratory CPO Statement of Shareholders 'equity (2009-2010)

Amount in millions, except per share data	Common Stock	Paid in capital	Retained earnings	Treasury stock	Unearned stock compensation	Accumulated OCI	Total Shareholder equity
Balance January 29, 2008 ($)	**12.8**	**237.4**	**2384.6**	**-929.8**		**-16.7**	**1688.3**
Comprehensive earnings:							
Net Earnings			543.3				543.3
Other comprehensive earnings:							
Foreign currency translation adjustments						93.3	93.3
Interest rate swap adjustments						2.9	2.9
Net benefit plan adjustments						31.5	31.5
Tax effect of other comprehensive earnings adjustments						-49.5	-49.5
Comprehensive earnings							**621.5**
Issuance of common stock under employee stock plans		24.8					24.8
Surrender of restricted stock awards				-2.7			-2.7
Conversion of zero-coupon convertible debt	0.1	11.3					11.4
Stock compensation		36.4					36.4
Value of no controlling interest put							
Income tax benefit adjustments related to stock options exercised		-0.1					-0.1
Purchase of common stock	-0.4	-273.1					-273.5
Balance February 8, 2009 ($)	**12.50**	**36.7**	**2927.9**	**-932.5**		**61.5**	**2106.1**
Comprehensive earnings:							
Net Earnings			558.2				558.2
Other comprehensive earnings:							
Foreign currency translation adjustments						41.3	41.3
Interest rate swap adjustments						8.2	8.2
Net benefit plan adjustments						-8.3	-8.3
Tax effect of other comprehensive earnings adjustments						-14.2	-14.2
Comprehensive earnings							**585.2**
Issuance of common stock under employee stock plans	0.2	83.2					83.2
Surrender of restricted stock awards				-2.4			-2.4
Conversion of zero-coupon convertible debt		1.1					1.1
Stock compensation		40					40
Value of no controlling interest put		-17.2					-17.2
Income tax benefit adjustments related to stock options exercised		7.6					7.6
Purchase of common stock	-0.5	-97.5	-239.5				-337.5
Balance February 8, 2010 ($)	**12.20**	**53.9**	**3246.6**	**-934.9**		**88.5**	**2466.3**

Table I.8 (Panel C): The Laboratory CPO Consolidated Statement of Earnings'

	Fiscal Year Ended		
amounts in millions, except per share data	**2011**	**2010**	**2009**
Net sales	5,542.30	5,003.90	4,694.70
Cost of sales	3,267.60	2,906.10	2,723.80
Gross profit	2,274.70	2,097.80	1,970.90
Operating Expenses:			
Selling, general and administrative expenses	1,159.60	1,034.30	958.90
Amortization of intangibles and other assets	85.80	72.70	62.60
Restructuring and other special charges	80.90	12.00	13.50
Operating income	948.40	978.80	935.90
Other Comprehensive Income (expense)			
Interest expense	-87.50	-70.00	-62.90
Equity method income, net	9.50	10.60	13.80
Investment income	1.30	1.10	1.60
Other, net	-5.60	-4.90	-3.80
Earnings before income taxes	**866.10**	**915.60**	**884.60**
Provision for income taxes	333.00	344.00	329.00
Net earnings	533.10	571.60	555.00
Less: Net earnings attributable to the no controlling interest	-13.40	-13.40	-12.30
Net earnings attributable to Laboratory Corporation of America Holdings	519.70	558.20	543.30
Basic earnings per common share	5.20	5.42	5.06
Diluted earnings per common share	5.11	5.29	4.98

Table I.9 (Panel A): Berkshire Hathaway: Consolidated Statement of Changes in Shareholders' Equity and Comprehensive income

	2008	2007	2006
Class A & B Common Stock	**US$**	**US$**	**US$**
Balance at beginning and end of year	8	8	8
Capital more than Par Value			
Balance at beginning of year	26,952	26,522	26,399
Issuance of Class A and B shares	181	430	123
Balance at end of year	**27,133**	**26,952**	**26,522**
Retained Earnings			
Balance at beginning of year	72,153	52,912	47,717
Adoption of new accounting pronouncements		28	180
Net earnings	4,994	13,213	11,015
Adoption of equity method	1,025		
Balance at end of year	**78,172**	**72,153**	**58,912**
Accumulated Other Comprehensive Income			
Unrealized appreciation of investments	-23,342	2,523	9,278
Applicable income taxes	8,257	-872	-3,246
Reclassification adjustment of investment appreciation included in net earnings	895	-5,494	-1,646
Applicable income taxes	-313	1,923	576
Foreign currency translation adjustments	-2,140	456	603
Applicable income taxes	118	-26	1
Prior service cost and actuarial gains/losses of defined benefit plans	-1,071	257	563
Applicable income taxes	389	-102	-196
Other, including minority interests	-60	-22	-13
Other comprehensive income	**-17,267**	**-1,357**	**5,920**
Accumulated other comprehensive income at beginning of year	21,620	22,977	17,360
Adoption of equity method	-399		
Adoption of SFAS 158			-303
Accumulated other comprehensive income at end of year	**3,954**	**21,620**	**22,977**
Comprehensive Income			
Net earnings	4,994	13,213	11,015
Other comprehensive income	-17,267	-1,357	5,920
Total Comprehensive income	**-12,273**	**11,856**	**16,935**

Table I.9 (Panel B): Berkshire Hathaway Consolidated Statement of Earnings'

	Fiscal Year Ended		
amounts in millions, except per share data	**2008**	**2007**	**2006**
Revenues:			
Insurance and Other:			
Insurance premiums earned	25,525	31,783	23,964
Sales and service revenues	65,854	58,243	51,803
Interest, dividend and other investment income	4,966	4,979	4,382
Investment gains/losses	-647	5,405	1,697
Utilities and Energy:			
Operating revenues	12,668	12,376	10,301
Other	1,303	252	343
Finance and Financial Products:			
Interest income	1,790	1,717	1,610
Investment gains/losses	7	193	114
Derivative gains/losses	-6,821	-89	824
Other	3,141	3,386	3,501
	-1,883	**5,207**	**6,049**
	107,786	**118,245**	**98,539**
Costs and expenses:			
Insurance and Other			
Insurance losses and loss adjustment expenses	16,259	21,010	13,068
Life and health insurance benefits	1,840	1,786	1,618
Insurance underwriting expenses	4,634	5,613	5,440
Cost of sales and services	54,103	47,477	42,416
Selling, general and administrative expenses	8,052	7,098	5,932
Interest expense	156	164	195
Utilities and Energy:			
Cost of sales and operating expenses	9,840	9,696	8,189
Interest expense	1,168	1,158	979
	11,008	**10,854**	**9,168**
Finance and Financial Products:	639	588	550
Interest expense	3,521	3,494	3,374
Other	**4,160**	**4,082**	**3,924**
	100,212	**98,084**	**81,761**
Earnings before income taxes and minority interests	7,574	20,161	16,778
Income taxes	1,978	6,594	5,505
Minority shareholders' interests	602	354	258
Net earnings	4,994	13,213	11,015
Average common shares outstanding	1,548,960	1,545,751	1,541,807
Net earnings per common share	3,224	8,548	7,144

Appendix II

Major Industries

Table II.1: All Firms (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income (AOCI)

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	255.85	315.60	-17.17	27.42	-38.18	0.81
1996	273.93	354.84	-10.60	29.38	-47.95	0.77
1997	324.13	403.04	-5.46	36.04	-51.09	0.80
1998	366.32	460.48	-11.98	43.27	-65.12	0.80
1999	417.76	510.22	-1.65	50.10	-66.88	0.82
2000	487.72	580.67	-18.35	46.72	-83.82	0.84
2001	580.29	698.76	-14.39	56.79	-112.50	0.83
2002	659.62	806.15	-17.34	73.10	-134.50	0.82
2003	788.70	948.19	-13.63	104.55	-155.31	0.83
2004	913.60	1149.60	-16.38	129.93	-178.51	0.79
2005	1026.52	1258.68	-23.81	157.88	-171.07	0.82
2006	1144.62	1384.25	-26.61	173.78	-201.97	0.83
2007	1202.26	1530.67	-116.81	180.16	-296.96	0.79
2008	1214.08	1653.06	-131.02	95.10	-437.24	0.73
2009	1374.17	1872.03	-13.50	172.88	-469.50	0.73
2010	1419.59	2043.76	-85.60	220.50	-564.32	0.69
2011	1351.85	2034.58	-89.65	213.76	-661.63	0.66
2012	1455.77	2321.13	-117.56	232.81	-803.20	0.63
2013	1475.44	2452.57	-92.76	236.86	-884.57	0.60
2014	1485.90	2582.62	-148.79	238.77	-1012.48	0.58

Table II.2: Agriculture, Forestry, and Fishing (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	133.88	200.21	-30.68	24.65	-53.61	0.67
1996	162.30	223.28	-5.53	45.97	-56.09	0.73
1997	225.98	328.14	-9.99	84.67	-76.57	0.69
1998	222.86	341.61	-11.51	11.94	-84.87	0.65
1999	216.15	299.37	1.14	-1.50	-79.49	0.72
2000	555.61	310.89	-11.40	-11.90	-94.87	1.79
2001	522.61	704.85	-13.17	-2.69	-102.76	0.74
2002	456.31	610.11	-26.07	-93.54	-116.08	0.75
2003	462.66	191.59	0.29	32.90	-5.20	2.41
2004	515.86	632.48	5.58	34.59	-50.44	0.82
2005	559.66	710.69	20.75	39.27	-33.56	0.79
2006	695.44	812.34	23.31	42.84	-12.35	0.86
2007	877.09	1198.92	38.19	107.96	22.12	0.73
2008	1020.38	1169.84	5.64	150.34	23.73	0.87
2009	1025.66	1229.53	-50.66	171.23	-28.91	0.83
2010	930.89	1334.65	-17.59	76.98	-46.02	0.70
2011	1163.86	1231.78	49.94	136.92	9.80	0.94
2012	1046.74	1302.76	-70.44	102.57	-60.65	0.80
2013	1120.31	1263.68	-19.66	161.51	-73.32	0.89
2014	875.06	1000.75	18.19	216.72	-63.32	0.87

Table II.3: Mining (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	315.08	394.06	-3.21	26.01	-75.83	0.80
1996	350.31	422.87	-8.42	42.40	-78.69	0.83
1997	375.23	459.53	-15.49	22.47	-90.90	0.82
1998	378.99	460.69	0.58	-9.81	-89.29	0.82
1999	476.79	555.68	5.09	35.02	-85.09	0.86
2000	577.78	665.38	-25.06	78.05	-115.88	0.87
2001	749.52	881.29	-37.87	91.63	-177.69	0.85
2002	935.41	1141.82	7.53	23.92	-176.95	0.82
2003	1177.01	1353.57	42.77	145.95	-139.56	0.87
2004	1382.03	1646.81	14.59	218.58	-121.93	0.84
2005	1477.45	1906.43	-89.38	333.29	-183.47	0.77
2006	1791.98	2199.20	-51.04	398.86	-204.74	0.81
2007	2034.50	2510.30	-30.60	339.10	-200.05	0.81
2008	2168.57	2681.86	-128.20	210.48	-320.98	0.81
2009	2415.16	2602.04	40.82	112.30	-191.55	0.93
2010	2855.51	3088.61	18.88	391.94	-178.74	0.92
2011	3017.73	3473.59	-155.99	452.37	-332.56	0.87
2012	3079.72	3554.98	-76.13	227.32	-394.69	0.87
2013	3108.67	3638.29	-14.07	171.14	-401.09	0.85
2014	3217.55	4154.98	-189.22	177.39	-636.88	0.77

Table II.4: Construction (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	662.13	829.31	-11.06	80.85	-150.84	0.80
1996	679.97	923.77	-28.61	90.80	-177.60	0.74
1997	704.02	962.20	-65.14	100.60	-230.20	0.73
1998	747.75	982.69	-6.76	120.80	-228.02	0.76
1999	854.10	1065.03	10.38	180.60	-223.32	0.80
2000	1047.14	1243.43	-15.17	190.50	-238.11	0.84
2001	1215.25	1353.24	-42.27	200.60	-234.60	0.90
2002	1241.58	1551.65	-50.94	250.60	-296.19	0.80
2003	1503.58	1831.29	24.35	290.80	-279.03	0.82
2004	1702.23	2013.32	43.35	390.78	-206.61	0.85
2005	2037.69	2260.43	-148.42	430.20	-341.30	0.90
2006	2287.59	2690.20	53.02	480.90	-279.03	0.85
2007	2486.48	2867.35	-7.48	530.10	-276.35	0.87
2008	2621.82	3201.19	-303.88	510.30	-582.12	0.82
2009	3142.63	3682.08	21.39	450.60	-567.21	0.85
2010	3661.05	4192.83	-14.36	550.30	-597.65	0.87
2011	3924.21	4861.63	-159.53	712.50	-746.40	0.81
2012	4259.66	5336.89	-96.64	650.60	-857.13	0.80
2013	4240.52	5844.20	-154.26	520.50	-1024.39	0.73
2014	3692.52	5657.81	-359.36	490.20	-1290.29	0.65

Table II.5: Manufacturing (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	379.82	427.61	-11.06	47.00	-150.84	0.89
1996	390.60	451.26	-28.61	48.00	-177.60	0.87
1997	416.08	494.63	-65.14	49.00	-230.20	0.84
1998	483.24	547.83	-6.76	50.20	-228.02	0.88
1999	604.57	690.26	10.38	55.00	-223.32	0.88
2000	713.83	870.22	-15.17	60.00	-238.11	0.82
2001	692.65	852.76	-42.27	-60.50	-234.60	0.81
2002	741.10	936.12	-50.94	10.00	-296.19	0.79
2003	902.70	1057.33	24.35	45.00	-279.03	0.85
2004	1040.13	1216.51	43.35	126.00	-206.61	0.86
2005	1097.85	1359.16	-148.42	135.00	-341.30	0.81
2006	1245.95	1559.77	53.02	165.00	-279.03	0.80
2007	1366.72	1653.06	-7.48	151.00	-276.35	0.83
2008	1208.32	1663.22	-303.88	48.00	-582.12	0.73
2009	1419.97	1837.80	21.39	71.00	-567.21	0.77
2010	1601.78	2063.94	-14.36	212.00	-597.65	0.78
2011	1714.47	2320.85	-159.53	231.00	-746.40	0.74
2012	1777.32	2480.27	-96.64	194.00	-857.13	0.72
2013	1937.52	2646.25	-154.26	234.00	-1024.39	0.73
2014	1935.26	2825.69	-359.36	275.00	-1290.29	0.68

Table II.6: Transportation, Communications, Electric, Gas, and Sanitary (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	1038.23	1057.34	-16.79	150.23	-194.60	0.98
1996	1134.61	1204.76	-6.33	160.5	-195.29	0.94
1997	1206.49	1257.02	-37.19	170.55	-213.07	0.96
1998	1478.23	1453.68	-4.13	195.7	-221.19	1.02
1999	2192.86	1963.62	269.61	180.6	48.96	1.12
2000	2713.81	2733.60	-141.31	170.6	-84.78	0.99
2001	3106.36	2952.89	-112.42	-180.2	-206.28	1.05
2002	2837.20	2767.67	-32.57	-580.6	-254.35	1.03
2003	3255.51	3285.29	98.03	200.3	-142.24	0.99
2004	3316.55	3416.03	46.84	190.82	-102.29	0.97
2005	3403.05	3969.44	-351.29	280.6	-388.60	0.86
2006	3752.38	4066.72	-46.03	465.7	-495.31	0.92
2007	3865.15	4140.85	0.97	460.6	-520.68	0.93
2008	3564.99	3895.94	-209.20	230.6	-704.67	0.92
2009	3975.60	4142.34	-13.42	402.3	-706.31	0.96
2010	4291.32	4573.05	-35.95	480.7	-736.42	0.94
2011	4426.99	4857.75	-206.48	430.6	-858.44	0.91
2012	4569.33	4877.11	-113.00	420.5	-984.10	0.94
2013	4823.50	5346.48	-188.79	790.3	-1221.03	0.90
2014	4653.09	5350.06	-249.28	550.2	-1440.64	0.87

Table II.7: Wholesale Trade (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	255.85	315.60	27.41793	-11712.9	-38.18	0.81
1996	273.93	354.84	29.3813	-7264.3	-47.95	0.77
1997	324.13	403.04	36.0351	-3789.26	-51.09	0.80
1998	366.32	460.48	43.26651	-7907.76	-65.12	0.80
1999	417.76	510.22	50.1027	-1057.12	-66.88	0.82
2000	487.72	580.67	46.71847	-10881.3	-83.82	0.84
2001	580.29	698.76	56.78879	-7438.32	-112.50	0.83
2002	659.62	806.15	73.0962	-8478.1	-134.50	0.82
2003	788.70	948.19	104.5518	-6338.19	-155.31	0.83
2004	913.60	1149.60	129.9292	-7256.69	-178.51	0.79
2005	1026.52	1258.68	157.8768	-10143.9	-171.07	0.82
2006	1144.62	1384.25	173.7782	-10749	-201.97	0.83
2007	1202.26	1530.67	180.1604	-44503.8	-296.96	0.79
2008	1214.08	1653.06	95.10101	-47165.9	-437.24	0.73
2009	1374.17	1872.03	172.8804	-4658.41	-469.50	0.73
2010	1419.59	2043.76	220.4968	-28932.2	-564.32	0.69
2011	1351.85	2034.58	213.7644	-30121.6	-661.63	0.66
2012	1455.77	2321.13	232.8078	-37855.4	-803.20	0.63
2013	1475.44	2452.57	236.8559	-30148	-884.57	0.60
2014	1485.90	2582.62	238.7656	-46572.6	-1012.48	0.58

Table II.8: Retails Trade (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	490.74	530.49	31.16	62.96	-5.52	0.93
1996	561.51	612.24	-11.52	71.88	-17.33	0.92
1997	679.84	709.06	3.99	86.21	-12.13	0.96
1998	779.49	820.54	29.88	94.06	21.21	0.95
1999	828.41	884.81	-33.40	120.71	-10.85	0.94
2000	1003.55	989.12	-9.20	136.98	-13.35	1.01
2001	1175.91	1191.70	-25.89	113.25	-40.54	0.99
2002	1337.20	1437.35	1.68	142.49	-40.24	0.93
2003	1572.13	1683.11	18.84	216.28	-18.05	0.93
2004	1873.08	2107.70	-22.82	247.10	-48.45	0.89
2005	2030.48	2313.13	-57.58	283.13	-104.96	0.88
2006	2387.07	2689.97	-17.06	371.03	-117.49	0.89
2007	2626.24	2906.81	-74.04	302.26	-186.10	0.90
2008	2143.89	2753.08	-376.90	-243.00	-535.71	0.78
2009	2808.55	3126.10	262.79	78.19	-244.32	0.90
2010	3304.68	3683.64	1.04	251.60	-235.16	0.90
2011	3632.21	4076.58	-14.52	274.44	-250.86	0.89
2012	3906.95	4350.09	44.18	286.06	-209.77	0.90
2013	3993.58	4669.53	-146.61	353.75	-356.57	0.86
2014	4231.32	4739.67	11.53	366.48	-350.17	0.89

Table II.9: Finance, Insurance, and Real Estate (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	169.27	250.64	-9.51	17.64	-53.04	0.68
1996	176.69	275.78	-15.50	18.43	-64.98	0.64
1997	197.06	296.46	-19.52	24.02	-78.96	0.66
1998	238.43	363.84	-19.36	25.08	-103.61	0.66
1999	314.97	487.93	-16.03	32.38	-130.19	0.65
2000	411.78	613.58	-30.42	-14.35	-154.01	0.67
2001	409.88	616.95	-26.48	-78.75	-201.57	0.66
2002	453.25	740.80	-35.36	-4.85	-278.94	0.61
2003	577.23	923.17	-13.28	53.79	-336.70	0.63
2004	701.40	1159.17	-35.02	79.90	-429.82	0.61
2005	679.84	1185.81	-3.81	103.13	-472.24	0.57
2006	726.55	1295.13	-70.93	118.06	-551.06	0.56
2007	716.01	1434.26	-36.60	127.15	-653.74	0.50
2008	696.75	1528.49	-124.91	92.46	-815.45	0.46
2009	860.43	1843.11	-46.05	135.78	-959.00	0.47
2010	982.26	2171.00	-43.67	196.74	-1102.24	0.45
2011	1094.84	2398.69	-83.34	230.83	-1236.31	0.46
2012	1228.49	2628.74	-62.18	224.27	-1340.75	0.47
2013	1350.01	2934.73	-54.19	241.46	-1439.66	0.46
2014	1658.78	3053.21	-59.21	260.55	-1455.74	0.54

Table II.10: Service (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	107.33	123.78	-1.47	7.25	-2.01	0.87
1996	136.33	144.95	-0.05	9.44	-1.70	0.94
1997	142.39	160.24	-1.90	8.25	-2.91	0.89
1998	165.45	177.09	-0.04	1.71	-1.72	0.93
1999	160.49	173.58	-3.05	-1.72	-4.98	0.92
2000	187.08	195.25	-4.47	4.07	-5.67	0.96
2001	227.95	240.44	-4.30	14.34	-9.94	0.95
2002	241.35	277.51	-17.99	10.66	-28.69	0.87
2003	284.75	322.49	-4.56	25.04	-35.56	0.88
2004	293.78	352.51	-13.94	24.17	-50.30	0.83
2005	334.39	394.01	-10.27	36.93	-59.63	0.85
2006	332.95	381.90	-4.68	31.91	-40.01	0.87
2007	314.90	374.66	-8.94	41.25	-52.11	0.84
2008	330.75	411.56	-18.56	39.09	-70.30	0.80
2009	380.14	456.07	-5.04	51.78	-75.08	0.83
2010	439.98	533.89	-15.14	69.03	-90.58	0.82
2011	445.19	576.89	-7.02	63.17	-101.72	0.77
2012	501.61	617.32	-16.19	69.01	-109.39	0.81
2013	562.74	703.04	-18.06	89.35	-132.63	0.80
2014	624.43	784.43	-20.55	95.08	-158.44	0.80

Table II.11: Public Administration (1995-2014): Mean value of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	1005.71	674.39	83.72	117.70	146.22	1995
1996	1400.06	1107.10	20.70	176.61	161.34	1996
1997	1779.96	1576.50	149.94	236.09	309.34	1997
1998	2448.98	2560.46	-216.27	289.45	105.32	1998
1999	2624.54	2556.96	-101.80	249.57	329.36	1999
2000	3192.02	2984.77	-13.22	415.19	310.91	2000
2001	4112.22	4009.74	-338.85	215.07	39.69	2001
2002	5850.98	5162.53	115.14	528.99	309.35	2002
2003	8068.21	7657.25	586.17	1025.31	805.11	2003
2004	9946.38	10087.58	330.63	1169.48	1279.23	2004
2005	11223.88	11579.41	-363.58	1392.05	997.12	2005
2006	11701.83	14128.21	800.87	1568.87	1901.24	2006
2007	7101.74	13510.89	-83.60	1074.87	1442.67	2007
2008	7589.47	10617.96	-1907.12	684.83	-860.93	2008
2009	19417.55	20283.67	1455.19	1356.51	-103.87	2009
2010	29359.65	31481.37	-343.01	2655.71	-485.68	2010
2011	32009.31	44296.18	-1283.43	2816.84	-1931.35	2011
2012	31170.93	43489.52	1092.61	3121.73	-690.08	2012
2013	30376.20	50013.26	3381.15	3361.40	2633.73	2013
2014	28642.22	58904.39	-1466.79	3073.87	3558.68	2014

Appendix III

Individual Case Studies

Table III.1: Tejon Ranch (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	36.969	37.013	0.411	0.434	-0.044	1.00
1996	37.732	38.064	-0.288	1.685	-0.332	0.99
1997	40.488	40.462	0.358	3.032	0.026	1.00
1998	42.705	42.967	-0.288	3.139	-0.262	0.99
1999	43.16	43.512	-0.09	1.181	-0.352	0.99
2000	42.489	43.235	-0.394	-0.545	-0.746	0.98
2001	72.129	73.752	-0.877	0.294	-1.623	0.98
2002	73.594	75.672	-0.455	0.243	-2.078	0.97
2003	74.643	76.204	0.517	-2.927	-1.561	0.98
2004	132.093	133.819	-0.165	0.389	-1.726	0.99
2005	138.831	141.879	-1.322	1.546	-3.048	0.98
2006	149.03	152.001	0.077	-2.729	-2.971	0.98
2007	165.054	167.208	0.817	7.333	-2.154	0.99
2008	173.306	176.186	-0.726	4.112	-2.88	0.98
2009	174.227	176.461	0.646	-3.377	-2.234	0.99
2010	236.714	238.988	-0.04	4.175	-2.274	0.99
2011	260.614	265.453	-2.565	15.894	-4.839	0.98
2012	268.592	273.793	-0.362	4.441	-5.201	0.98
2013	280.582	208.522	1.785	4.165	-3.416	1.35
2014	284.621	226.275	-3.567	5.655	-6.983	1.26

Table III.2: ConocoPhillips (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	3188.00	7651.31	-8.00	469.00	-4463.31	0.42
1996	4251.00	8764.31	-50.00	1303.00	-4513.31	0.49
1997	4814.00	9443.31	-116.00	959.00	-4629.31	0.51
1998	4219.00	8885.31	-37.00	237.00	-4666.31	0.47
1999	4549.00	9278.31	-63.00	609.00	-4729.31	0.49
2000	6093.00	10951.31	-129.00	1862.00	-4858.31	0.56
2001	14340.00	19433.31	-235.00	1661.00	-5093.31	0.74
2002	29517.00	35116.31	-506.00	-295.00	-5599.31	0.84
2003	34366.00	38995.31	970.00	4735.00	-4629.31	0.88
2004	42723.00	46584.31	768.00	8129.00	-3861.31	0.92
2005	52731.00	57370.31	-778.00	13529.00	-4639.31	0.92
2006	82646.00	86809.31	476.00	15550.00	-4163.31	0.95
2007	88983.00	89887.31	3259.00	11891.00	-904.31	0.99
2008	55165.00	62520.31	-6451.00	16998.00	-7355.31	0.88
2009	62467.00	64892.31	4930.00	4858.00	-2425.31	0.96
2010	68562.00	69723.31	1264.00	11358.00	-1161.31	0.98
2011	65224.00	68079.31	-1694.00	12436.00	-2855.31	0.96
2012	47987.00	68847.31	-18005.00	8428.00	-20860.31	0.70
2013	52090.00	75035.31	-2085.00	9156.00	-22945.31	0.69
2014	51911.00	78760.31	-3904.00	6869.00	-26849.31	0.66

Table III.3: Archer Daniel (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	5854.17	6023.22	-169.06	795.92	-2873.70	0.97
1996	6144.81	6654.59	-509.78	695.91	-3383.48	0.92
1997	6050.13	6554.53	-504.40	377.31	-3887.88	0.92
1998	6504.91	7207.16	-702.25	403.61	-4590.12	0.90
1999	6240.64	6880.52	-639.88	265.96	-5230.00	0.91
2000	6110.24	6690.24	-579.99	300.90	-5809.99	0.91
2001	6331.68	6623.17	-291.49	383.28	-6101.47	0.96
2002	6754.82	6936.11	-181.29	511.09	-6282.76	0.97
2003	7069.20	6987.26	81.94	451.15	-6200.82	1.01
2004	7698.22	7448.30	249.91	494.71	-5950.91	1.03
2005	8433.47	8487.51	-54.03	1044.39	-6004.94	0.99
2006	9806.88	9628.73	178.15	1312.07	-5826.79	1.02
2007	11253.00	11266.86	-13.86	2162.00	-5840.65	1.00
2008	13490.00	12688.00	802.00	1802.00	-5038.65	1.06
2009	13499.00	14833.00	-1334.00	1707.00	-6372.65	0.91
2010	14609.00	15186.00	-577.00	1930.00	-6949.65	0.96
2011	18808.00	17735.00	1073.00	2036.00	-5876.65	1.06
2012	17969.00	19042.00	-1073.00	1223.00	-6949.65	0.94
2013	20156.00	18844.00	1312.00	1342.00	-5637.65	1.07
2014	19575.00	20759.00	-1184.00	2248.00	-6821.65	0.94

Table III.4: Motorola Solutions (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	11048.00	11291.84	0.00	1781.00	-243.84	0.98
1996	11795.00	11776.84	262.00	1154.00	18.16	1.00
1997	13272.00	13253.84	0.00	1180.00	18.16	1.00
1998	12222.00	11933.84	270.00	-962.00	288.16	1.02
1999	16344.00	13171.84	2884.00	817.00	3172.16	1.24
2000	18612.00	17493.84	-2054.00	1318.00	1118.16	1.06
2001	13691.00	13909.84	-1337.00	-3937.00	-218.84	0.98
2002	11239.00	11766.84	-309.00	-2485.00	-527.84	0.96
2003	12689.00	12486.84	730.00	893.00	202.16	1.02
2004	13331.00	15923.84	-2795.00	1532.00	-2592.84	0.84
2005	16673.00	20633.84	-1368.00	4578.00	-3960.84	0.81
2006	17142.00	21329.84	-227.00	3661.00	-4187.84	0.80
2007	15447.00	18680.84	954.00	-49.00	-3233.84	0.83
2008	9507.00	14243.84	-1503.00	-4244.00	-4736.84	0.67
2009	9775.00	14592.84	-81.00	-51.00	-4817.84	0.67
2010	10885.00	15638.84	64.00	633.00	-4753.84	0.70
2011	5214.00	15081.84	-5114.00	1158.00	-9867.84	0.35
2012	3265.00	13556.84	-424.00	881.00	-10291.84	0.24
2013	3659.00	12937.84	1013.00	1099.00	-9278.84	0.28
2014	2735.00	11581.84	432.00	1299.00	-8846.84	0.24

Table III.5: Duke Energy (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	4785.18	4837.65	-52.47	714.54	-1410.52	0.99
1996	4888.72	5061.32	-172.60	729.97	-1583.12	0.97
1997	7539.70	7568.47	-28.77	974.40	-1611.89	1.00
1998	8150.00	8163.00	-13.00	1252.00	-1624.89	1.00
1999	8998.00	9009.00	-11.00	1507.00	-1635.89	1.00
2000	10056.00	10159.00	-103.00	1776.00	-1738.89	0.99
2001	12689.00	12401.00	288.00	1898.00	-1450.89	1.02
2002	14944.00	15837.00	-893.00	1034.00	-2343.89	0.94
2003	13748.00	12911.00	837.00	-1323.00	-1506.89	1.06
2004	16441.00	15953.00	488.00	1490.00	-1018.89	1.03
2005	16439.00	16308.00	131.00	1824.00	-887.89	1.01
2006	26102.00	26281.00	-179.00	1863.00	-1066.89	0.99
2007	21199.00	26592.00	-5393.00	1500.00	-6459.89	0.80
2008	20988.00	21591.00	-603.00	1362.00	-7062.89	0.97
2009	21750.00	21396.00	354.00	1075.00	-6708.89	1.02
2010	22522.00	22148.00	374.00	1320.00	-6334.89	1.02
2011	22772.00	23008.00	-236.00	1706.00	-6570.89	0.99
2012	40863.00	40935.00	-72.00	1768.00	-6642.89	1.00
2013	41330.00	41426.00	-96.00	2665.00	-6738.89	1.00
2014	40875.00	41019.00	-144.00	1883.00	-6882.89	1.00

Table III.6: Home Depot (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	4987.77	4993.94	6.20	731.52	-6.18	1.00
1996	5955.19	5953.18	8.18	937.74	2.01	1.00
1997	7098.00	7123.59	-27.60	1160.00	-25.59	1.00
1998	8740.00	8798.59	-33.00	1614.00	-58.59	0.99
1999	12341.00	12365.59	34.00	2320.00	-24.59	1.00
2000	15004.00	15068.59	-40.00	2581.00	-64.59	1.00
2001	18082.00	18299.59	-153.00	3044.00	-217.59	0.99
2002	19802.00	19881.59	138.00	3664.00	-79.59	1.00
2003	22407.00	22314.59	172.00	4304.00	92.41	1.00
2004	24158.00	23928.59	137.00	5001.00	229.41	1.01
2005	26909.00	26497.59	182.00	5838.00	411.41	1.02
2006	25030.00	24974.59	-356.00	5761.00	55.41	1.00
2007	17714.00	41563.59	-23905.00	4395.00	-23849.59	0.43
2008	17777.00	42492.59	-866.00	2260.00	-24715.59	0.42
2009	19393.00	43672.59	436.00	2661.00	-24279.59	0.44
2010	18889.00	43085.59	83.00	3338.00	-24196.59	0.44
2011	17898.00	42246.59	-152.00	3883.00	-24348.59	0.42
2012	17777.00	42021.59	104.00	4535.00	-24244.59	0.42
2013	12522.00	37117.59	-351.00	5385.00	-24595.59	0.34
2014	9322.00	34415.59	-498.00	6345.00	-25093.59	0.27

Table III.7: Crawford & Company (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	220.860	281.846	-8.27	36.02	-60.986	0.78
1996	221.536	303.441	-20.92	42.81	-81.905	0.73
1997	215.005	344.595	-47.69	46.99	-129.590	0.62
1998	240.051	373.004	-3.36	27.47	-132.953	0.64
1999	250.279	383.585	-0.35	39.26	-133.306	0.65
2000	217.767	357.418	-6.35	25.35	-139.651	0.61
2001	188.300	359.833	-31.88	29.45	-171.533	0.52
2002	159.431	365.495	-34.53	24.51	-206.064	0.44
2003	172.594	361.894	16.76	7.66	-189.300	0.48
2004	194.833	376.091	8.04	25.17	-181.258	0.52
2005	179.031	382.198	-21.91	12.88	-203.167	0.47
2006	211.151	398.982	15.34	15.01	-187.831	0.53
2007	254.215	418.881	23.17	16.12	-164.666	0.61
2008	175.551	459.013	-118.80	32.26	-283.462	0.38
2009	56.682	347.390	-7.25	-115.68	-290.708	0.16
2010	89.516	379.143	1.08	28.33	-289.627	0.24
2011	133.472	422.380	0.72	45.40	-288.908	0.32
2012	136.199	463.211	-38.10	48.89	-327.012	0.29
2013	199.805	509.624	17.19	50.98	-309.819	0.39
2014	172.937	528.485	-45.73	30.62	-355.548	0.33

Table III.8: Moody's (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	1182.5	1044.024	16.5	320.8	138.476	1.13
1996	-431.7	779.024	-1349.2	-44.4	-1210.724	-0.55
1997	-490.2	875.724	-155.2	184	-1365.924	-0.56
1998	-371	1805.524	-810.6	280.1	-2176.524	-0.21
1999	-416.6	1766.324	-6.4	256	-2182.924	-0.24
2000	-282.5	1951.424	-51	158.5	-2233.924	-0.14
2001	-304.1	1930.624	-0.8	212.2	-2234.724	-0.16
2002	-327	1903.324	4.4	288.9	-2230.324	-0.17
2003	-32.1	2191.824	6.4	363.9	-2223.924	-0.01
2004	317.5	2539.824	1.6	425.1	-2222.324	0.13
2005	309.4	2542.324	-10.6	560.8	-2232.924	0.12
2006	167.4	2407.824	-7.5	753.9	-2240.424	0.07
2007	-783.6	1476.224	-19.4	701.5	-2259.824	-0.53
2008	-994.4	1333.124	-67.7	457.6	-2327.524	-0.75
2009	-606.2	1710.424	10.9	402	-2316.624	-0.35
2010	-309.6	1999.224	7.8	507.8	-2308.824	-0.15
2011	-169	2213.924	-74.1	571.4	-2382.924	-0.08
2012	385.2	2742.724	25.4	690	-2357.524	0.14
2013	337	2667.024	27.5	804.5	-2330.024	0.13
2014	-187.8	2322.824	-180.6	988.7	-2510.624	-0.08

Table III.9: Laboratory CP (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	411.6	620	0	-12.3	-208.4	0.66
1996	258.1	466.5	0	-153.5	-208.4	0.55
1997	129.1	361.4	-23.9	-106.9	-232.3	0.36
1998	154.4	433.1	-46.4	68.8	-278.7	0.36
1999	175.5	502.7	-48.5	65.4	-327.2	0.35
2000	877.4	1239.5	-34.9	112.1	-362.1	0.71
2001	1085.4	1455.9	-8.4	179.5	-370.5	0.75
2002	1611.7	2003.3	-21.1	254.6	-391.6	0.80
2003	1895.9	2222.9	64.6	321	-327	0.85
2004	1999.3	2279.3	47	363	-280	0.88
2005	1885.7	2157.1	8.6	386.2	-271.4	0.87
2006	1977.1	2280.1	-31.6	431.6	-303	0.87
2007	1725.3	1968	60.3	476.8	-242.7	0.88
2008	1688.3	2175.9	-244.9	464.5	-487.6	0.78
2009	2106.1	2730.9	-137.2	543.3	-624.8	0.77
2010	2466.3	3303.6	-212.5	558.2	-837.3	0.75
2011	2503.5	3762.9	-422.1	519.7	-1259.4	0.67
2012	2717.4	4334.7	-357.9	583.1	-1617.3	0.63
2013	2491.3	4900.6	-792	573.8	-2409.3	0.51
2014	2820.5	5405.1	-175.3	511.2	-2584.6	0.52

Table III.10: Berkshire Hathaway (1995-2014): Sum of reported book value, clean surplus book value, earnings, Other Comprehensive Income and Accumulated Other Comprehensive Income

Year	Reported book value (RBV)	Clean surplus book value (CSBV)	Other Comprehensive Income	Earnings	Accumulated Other Comprehensive Income (AOCI)	Ratio of RBV to CSBV
1995	17217.10	6566.48	4268.47	725.2	10650.621	2.62
1996	23426.30	10330.88	2444.80	2488.6	13095.421	2.27
1997	31455.20	12305.78	6054.00	1901.6	19149.421	2.56
1998	57403.00	37941.78	311.80	2830	19461.221	1.51
1999	57761.00	39586.78	-1287.00	1557	18174.221	1.46
2000	61724.00	43229.78	320.00	3328	18494.221	1.43
2001	57950.00	44107.78	-4652.00	795	13842.221	1.31
2002	64037.00	48814.78	1380.00	4286	15222.221	1.31
2003	77596.00	57088.78	5285.00	8151	20507.221	1.36
2004	85900.00	64513.78	879.00	7308	21386.221	1.33
2005	91484.00	73172.78	-3075.00	8528	18311.221	1.25
2006	108419.00	84310.78	5797.00	11015	24108.221	1.29
2007	120733.00	97953.78	-1329.00	13213	22779.221	1.23
2008	109267.00	103128.78	-16641.00	4994	6138.221	1.06
2009	131102.00	111124.78	13839.00	8055	19977.221	1.18
2010	157318.00	134550.78	2790.00	12967	22767.221	1.17
2011	164850.00	145011.78	-2929.00	10254	19838.221	1.14
2012	187647.00	157962.78	9846.00	14824	29684.221	1.19
2013	221890.00	175680.78	16525.00	19476	46209.221	1.26
2014	240170.00	195253.78	-1293.00	19872	44916.221	1.23

THE END